ATD Report 69-4-50-2

AD 677512

CBE FACTORS

Monthly Survey No. 32

ATD Work Assignment No. 50

Aerospace Technology Division
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FOREWORD

This report is the thirty-second in a series of monthly surveys covering the following areas:

I. CHEMICAL FACTORS
   - Pesticides
   - Herbicides
   - Fertilizers
   - Psychotomimetics
   - Other Chemicals

II. BIOLOGICAL FACTORS
   - Pathogens

III. ENVIRONMENTAL FACTORS
   - Aerosols
   - Ecology
   - Micrometeorology
   - Soil Science

IV. GENERAL

Titles of publications cited in Sections I—IV are listed alphabetically in Appendix I. Author's organizations are listed alphabetically in Appendix II. An author index is included as Appendix III. There is no bibliography.

TABLE OF CONTENTS

I. CHEMICAL FACTORS

ACC NR: AP8017125 SOURCE CODE: UR/0062/68/000/004/0744/0750

AUTHOR: Abduvakhabov, A.A.; Godovikov, N.N.; Kabachnik, M.I.; Mikhaylov, S.S.; Rozengart, V.I.; Sitkevich, R.V.

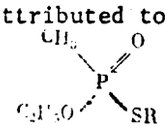
ORG: Institute of Heteroorganic Compounds, Academy of Sciences SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR); First Leningrad Medical Institute im. I.P. Pavlov (1-y Leningradskiy meditsinskiy institut)

TITLE: Distribution of hydrophobic zones on the active surface of cholinesterase

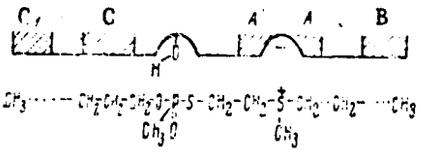
SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1968, 744-750

TOPIC TAGS: phosphate ester, cholinesterase

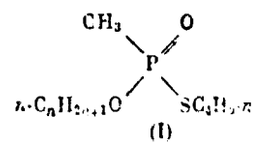
ABSTRACT: Earlier studies of the reaction of O-ethyl S-alkyl methylthiophosphonates with cholinesterase revealed that the anticholinesterase activity of these esters increases with the length and degree of branching of the radical R. This was attributed to sorption of the hydrocarbon



radical on enzyme surface hydrophobic centers (A and B) near the anion part of the molecule. Further studies revealed that anticholinesterase



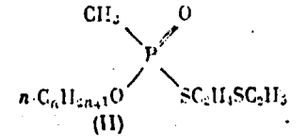
activity of thiophosphate esters also increases with the length of the C_nH_{2n+1} hydrocarbon radical. In this case, the increased activity



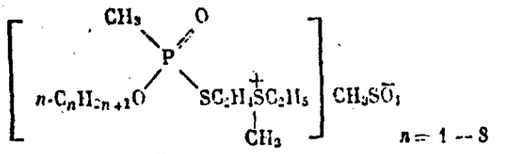
$n = 1 - 10$

(I)

of the esters was attributed to sorption of the hydrocarbon radical on the hydrophobic center (C). With change in the orientation of the ester on the enzyme surface, it is possible that the C_nH_{2n+1} radical will be adsorbed on the hydrophobic centers (A) and (B). This possibility was investigated using the esters II and III as the cholinesterase inhibitors. The esters II and III were synthesized by an earlier

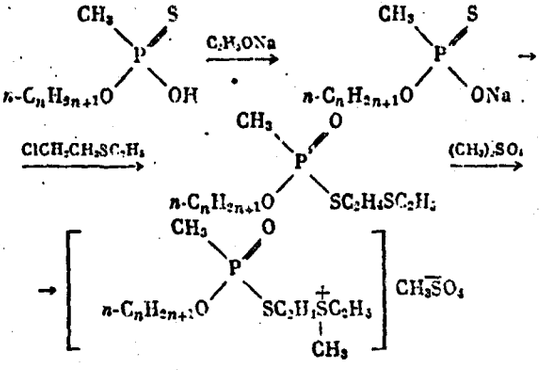


(II) $n = 1 - 8$



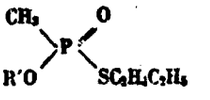
(III) $n = 1 - 8$

published method which involves the following reactions:



The esters II and III are characterized in Tables 1 and 2, respectively.

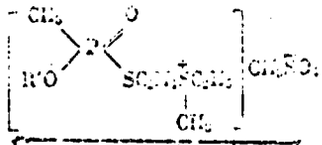
Table 1



R'	Bp, °C (mm)	n_D^{20}	d_4^{20}	R_f	% Yield
CH_3	100 (1,5)	1,5251	1,1723	0,49	68
n-C_3H_7*	105 (2)	1,5101	1,1039	0,57	60
n-C_4H_9*	95—96 ($3 \cdot 10^{-2}$)	1,5092	1,0960	0,61	68
n-C_5H_{11}*	101—105 ($2 \cdot 10^{-2}$)	1,5040	1,0766	0,62	65
n-C_6H_{13}	103—104 (10^{-2})	1,4984	1,0493	0,80	45
n-C_7H_{15}	120—121 ($2 \cdot 10^{-2}$)	1,4924	1,0470	0,59	68
n-C_8H_{17}	117 (10^{-2})	1,4974	1,0065	0,61	60

* Literature data: R = C_3H_7, n_D^{25} 1,[illegible]; R = C_4H_9, n_D^{25} 1,5[illegible]; R = C_5H_{11}, n_D^{25} 1,[illegible].

Table 2



R'	% Yield	n_D^{20}
CH_3	70	1,5201
n-C_3H_7	72	1,5010
n-C_4H_9	92	1,5092
n-C_5H_{11}	92	1,5045
n-C_6H_{13}	94	1,5014
n-C_7H_{15}	98	1,5032
n-C_8H_{17}	91	1,5000

The anticholinesterase activity of these esters was studied on a commercial [illegible] blood cholinesterase by measuring the rate constant (k_2) of the bimolecular reaction of the inhibitor with cholinesterase.

Values of k_2 are given in Table 3. With increasing length of the

Table 3. Rate constant (k_2) of the reaction of organophosphorus inhibitor with cholinesterase.

(II)		(III)	
R'	k_2, 1/M. min	R'	k_2, 1/M. min
CH_3	$(9,6\pm0,2)\cdot10^2$	CH_3	$(7,7\pm0,25)\cdot10^5$
C_2H_5	$(4,4\pm0,09)\cdot10^3$	C_2H_5	$(3,2\pm0,69)\cdot10^6$
C_3H_7	$(5,77\pm0,06)\cdot10^4$	C_3H_7	$(3,8\pm0,05)\cdot10^7$
C_4H_9	$(1,56\pm0,07)\cdot10^5$	C_4H_9	$(4,8\pm0,27)\cdot10^7$
C_5H_{11}	$(1,73\pm0,07)\cdot10^5$	C_5H_{11}	$(7,5\pm0,44)\cdot10^7$
C_6H_{13}	$(3,7\pm0,4)\cdot10^5$	C_6H_{13}	$(1,6\pm0,1)\cdot10^8$
C_7H_{15}	$(2,6\pm0,14)\cdot10^5$	C_7H_{15}	$(2,5\pm0,1)\cdot10^8$
C_8H_{17}	$(1,68\pm0,02)\cdot10^5$	C_8H_{17}	$(2,77\pm0,085)\cdot10^8$

hydrocarbon radical of the alkoxy group, k_2 increases. In the reactions of the esters II with cholinesterase, k_2 was 2—3 orders lower than in the reactions with esters III. The higher activity of the esters III is attributed to the presence of the positive charge on the alkylthiolic group of the esters III. The charged molecule of the ester interacts with the anion center of the enzyme resulting in the change of inhibitor orientation on the enzyme surface. Orig. art. has: 4 tables and 3 figures. [WA-50; CBE No. 32][JS]

SUB CODE: 07/ SUBM DATE: 19Jul67/ ORIG REF: 014/ OTH REF: 005

ACC NR: AP8015276 SOURCE CODE: UR/0031/68/000/004/0071/0073

AUTHOR: Azerbayev, I.M.; Sarbayev, T.G.; Makanov, U.

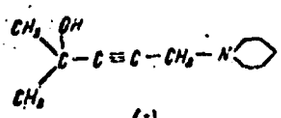
ORG: none

TITLE: Alkynyl esters on arylcarbamic acids

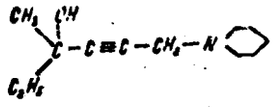
SOURCE: AN KazSSR. Vestnik, no. 4, 1968, 71- 3

TOPIC TAGS: organic insecticide, organic isocyanate compound

ABSTRACT: The herbicidal and insecticidal activity of known esters of arylcarbamic acids are reviewed. In a search for new herbicides and fungicides, a series of alkynyl arylcarbamates was synthesized by the reaction of the earlier reported compounds I-V with m-chlorophenylisocyanate and naphthylisocyanate in benzene solution at 80—90°C. The

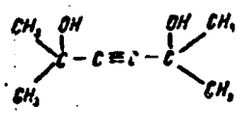


(I)

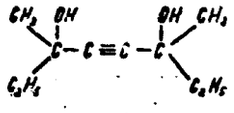


(II)

 UDC: 547.37:632.954



(III)



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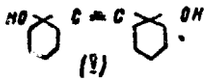
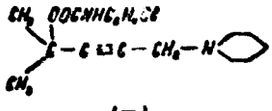
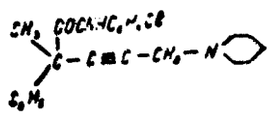


(V)

structure of the new esters (VI-XIII) is shown below. Synthesized



(VI)



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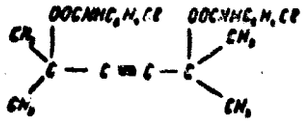
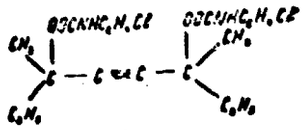


(VIII)



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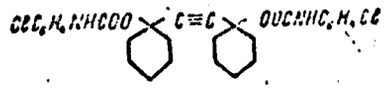
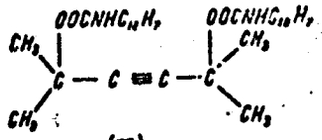
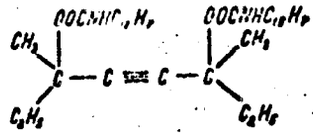


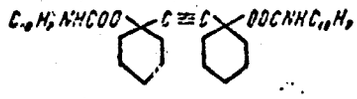
(X)



(XI)



(XII)



(XIII)

Compd	Mp, °C	% Yield
VI	224—225	72
VII	215—216	69
VIII	161—166	81
IX	161—162	78
X	168—169	74
XI	85—86	78
XII	82—83	75
XIII	102—104	80

compounds are characterized in the table. [WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 072

ACC NR: AP8017816 SOURCE CODE: CZ/0078/68/000/004/0023/0024

INVENTOR: Drabek, J. (Engineer, Candidate of sciences; Bratislava); Truchlik, S. (Engineer, Candidate of sciences; Bratislava); Vrzgula, D. (Engineer; Bratislava)

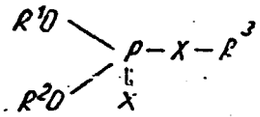
ORG: none

TITLE: Purification of organophosphorus pesticides. CZ Pat No. PV 1549-67

SOURCE: Vynalezy, no. 4, 1968, 23-24

TOPIC TAGS: pesticide, organic phosphorus insecticide

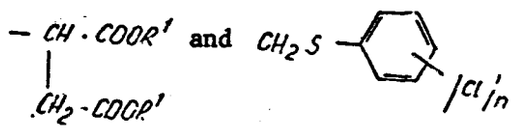
ABSTRACT: Organophosphorus pesticides of the general formula (where



(where R^1 and R^2 is C_1—C_4 alkyl; X is O or S; and R^3 is an aryl or substituted aryl with alkyl, halogen, and/or nitro groups) and

Card 1/2

ACC NR: AP8017816



(where n = 1—3) are purified by distillation with steam at 0.1—1.2 atm, at 30—110°C. The best result is obtained at 84—100°C.

[WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 02Mar67

Card 2/2

ACC NR: AP8017817 SOURCE CODE: CZ/0078/68/000/004/0024/0024

INVENTOR: Drabek, J. (Engineer, Candidate of sciences; Bratislava); Vesela, Z. (Engineer; Bratislava)

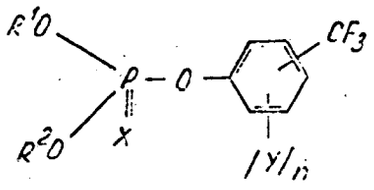
ORG: none

TITLE: An insecticide preparation. CZ Pat No. PV 2196-67

SOURCE: Vynalezy, no. 4, 1968, 24

TOPIC TAGS: insecticide, organic phosphorus insecticide

ABSTRACT: As an active ingredient, the proposed insecticide contains trifluoromethylaryl thiophosphates and trifluoromethylaryl phosphates of the general formula:



Card 1/2

ACC NR: AP8017817

(where R^1 and R^2 denote alkyl with maximum 4C atoms, the alkyls could be the same or different; X is O or S; Y is Cl, Br or CF_3 group; n is equal to 0, 1 or 2). [WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 25Mar67

Card 2/2

ACC NR: AT8019305 SOURCE CODE: UR/0000/67/000/000/0240/0243

AUTHOR: Dregval', G.F.; Katts, I.G.; Martynyuk, A.P.

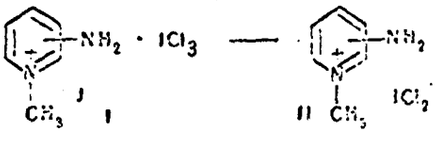
ORG: Donets Branch of the All-Union Scientific Research Institute of Chemical Reagents and High Purity Substances (Donetskiy filial vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i osobo chistikh veshchestv)

TITLE: Quaternary salts and complex compounds of some aminopyridine derivatives

SOURCE: AN LatSSR. Khimiya geterotsiklicheskikh soyedineniy. sb. 1: Azotsoderzhashchiye geterotsikly (Chemistry of heterocyclic compounds, no. 1: Nitrogen containing heterocycles). Riga, Izd-vo "Zinatne," 1967, 240-243

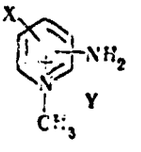
TOPIC TAGS: quaternary amine, pyridine, amine salt, nonmetallic organic derivative

ABSTRACT: It was shown that aminopyridine methiodides react with iodine trichloride:



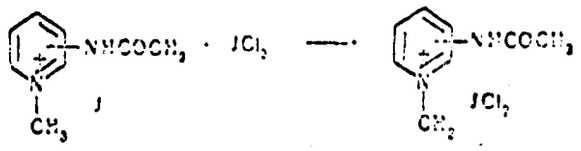
Physical constants and yield data are shown in the table below.

Table 1



Position of amino group	X	Y	Mp, °C	% Yield
2	H	ICl_2	127—128	76.5
3	5-Cl	I	222—223	83.0
	5-Cl	ICl_2	197—199	82.0
	4-CH$_3$	I	143—145	91.5
	4-CH$_3$	ICl_2	112—113	93.5
	H	I	118—119	91.5
3	H	ICl_2	70—72	78.5
4	H	ICl_2	110—112	67.0

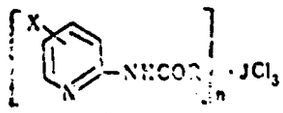
Acylaminopyridine quaternary salts were shown to react with iodine trichloride in a similar way:



Only complexes were obtained when N-acylaminopyridines were allowed to react with iodine trichloride. The general reaction is shown below.

The synthesized compounds are yellow crystalline substances which do not hydrolyze in air, are very soluble in alcohol and chloroform, and are insoluble in benzene, petroleum ether, and ether. Some other characteristics are shown in the table below. The synthesized compounds

Table 2



R	X	n	Mp, °C	% Yield
CH_3	Cl	1	151—153	80
C_2H_5	Cl	1	151—152	87
C_3H_7	Cl	1	111—113	82
CH_3	H	1	172—174	83
CH_3	Cl	2	151—153	82
C_2H_5	Cl	2	151—153	80
C_3H_7	Cl	2	107—109	81
C_6H_5	H	2	171—172	80

were of interest because of their potential physiological properties. Orig. art. has: 2 tables. [WA-50; CBE No. 32][NC]

SUB CODE: 07/ SUBM DATE: 21Oct65/ ORIG REF: 003/ OTH REF: 003

ACC NR: AT8019304 SOURCE CODE: UR/0000/67/000/000/0236/0239

AUTHOR: Dregval', G.F.; Martynyuk, A.P.; Kovalenko, N.V.

ORG: Donets Branch, All-Union Scientific Research Institute of Chemical Reagents and High Purity Chemicals (Donetskiy filial vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv)

TITLE: Amidophosphates of the pyridine series

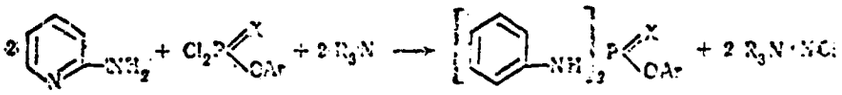
SOURCE: AN LatSSR. Khimiya geterotsiklicheskikh soyedineniy. sb. 1: Azotsoderzhashchiye geterotsikly (Chemistry of heterocyclic compounds, no. 1: Nitrogen containing heterocycles). Riga, Izd-vo "Zinatne," 1967, 236-239

TOPIC TAGS: organic phosphate, bactericide

ABSTRACT: In a search for new bactericides, a series of the title compounds was synthesized by the reactions of aminopyridines with dialkyl chlorophosphates and O, O-dialkyl chlorothiophosphates:

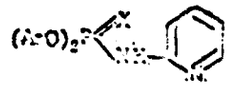
Card 1/4 UDC: 547.822+542.953.5+543.422

ACC NR: AT8019304



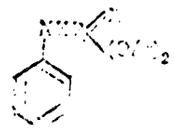
The new compounds which showed weak bactericidal activities are characterized in Tables 1, 2, and 3. Tests conducted by R.L. Kolomoitsev and

Table 1



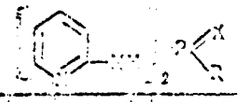
No.	Ar	X	Mp, °C	% Yield
I	C_6H_5	O	145—146	62
II	C_6H_5	S	103—104	32
III	p-$CH_3C_6H_4$	O	169—171	46
IV	p-$CH_3C_6H_4$	S	128—129	61

Table 2



No.	Ar	X	Mp, °C	% Yield
V	C_6H_5	O	170—181	22
VI	C_6H_5	S	151—152	22
VII	p-ClC_6H_4	O	215—216	27

Table 3



No.	R	X	Mp, °C	% Yield
VIII	C_6H_5O	S	174—175	33
IX	C_6H_5O	O	198—199	33
X	p-ClC_6H_4O	S	177—178	33
XI	p-ClC_6H_4O	O	168—170	33
XII	C_6H_5	O	159—161	36

Geoniy at the Donetsk Medical Institute revealed that these compounds have weak bactericidal activity. Orig. art. has: 3 tables.
[WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 05Oct65/ ORIG REF: 007/ OTH REF: 003

ACC NR: AP8018797 SOURCE CODE: UR/0409/68/000/002/0327/0328

AUTHOR: Gireva, R.N.; Gavrilov, N.N.; Mar'yanovskiy, V.M.; Novikova, E.I.; Reznichenko, L.A.

ORG: Novokuznetsk Scientific Research Chemical and Pharmaceutical Institute (Novokuznetskiy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut)

TITLE: Synthesis and properties of some imidazole derivatives. III. Chloroacetic esters of 4(5)-hydroxymethylimidazole

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 2, 1968, 327-328

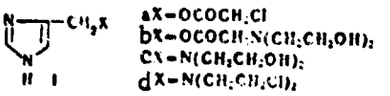
TOPIC TAGS: organic imine compound, halogenated organic compound

ABSTRACT: The biological activity of chloroacetates is well known. At 30--75°C, 4(5)-hydroxymethylimidazole reacted with chlorides of mono-, di-, and trichloroacetic acid to form 4(5)-imidazolylmethyl monochloroacetate hydrochloride (yield 97%, mp 142—143°C), 4(5)-imidazolylmethyl dichloroacetate hydrochloride (yield 95%, mp 132°C), and 4(5)-imidazolylmethyl trichloroacetate hydrochloride (yield 73.5%, mp 113—114°C). An attempt to obtain compound Ib by the reaction of Ia with diethanolamine resulted in the formation of Ic, which was characterized in the form

Card 1/2 UDC: 547.78.542.95.543.422

ACC NR: AP8018797

of the dihydrochloride (mp 153—155°C):



The structure of Ic was confirmed by IR spectra and by its transformation into the earlier synthesized Id. [WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 12Apr66/ ORIG REF: 003/ OTH REF: 001

Card 2/2

ACC NR: AT8019297 SOURCE CODE: UR/0000/67/000/000/0172/0174

AUTHOR: Godovikova, S.N.; Gol'dfarb, Ya.B.

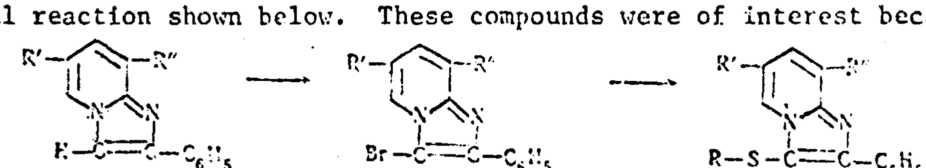
ORG: Institute of Organic Chemistry, AN SSSR, Moscow (Institut organicheskoy khimii AN SSSR)

TITLE: Synthesis of 3-alkylmercapto-2-phenyl-5(1-methyl-2-pyrolidyl)- and 3-alkylmercapto-2-phenyl-7 (1-methyl-2-pyrolidyl)pyrimidazoles

SOURCE: AN LatSSR. Khimiya geterotsiklicheskikh soyedineniy. sb. 1: Azotsoderzhashchiye geterotsikly (Chemistry of heterocyclic compounds, no. 1: Nitrogen containing heterocycles). Riga, Izd-vo "Zinatne," 1967, 172-174

TOPIC TAGS: imidazole, mercaptan, fungicide

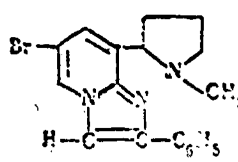
ABSTRACT: Title compounds* (III) were synthesized according to the general reaction shown below. These compounds were of interest because



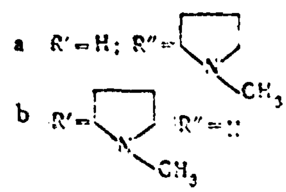
Ia, b IIa, b IIIa,b

Card 1/2 UDC: 547.779+547.821

ACC NR: AT8019297



IIc



of their possible fungicidal properties. Some characteristics of the

Table 1. Type III compounds.

R	R'	R"	Mp, °C	% Yield	Picrate decomp, °C	Hydrobromide decomp, °C
CH_3	H	Methyl-2-pyrrolidyl	[illegible]	[illegible]	[illegible]	[illegible]
C_2H_5	H	Methyl-2-pyrrolidyl	Oil	[illegible]	[illegible]	[illegible]
CH_3	Methyl-2-pyrrolidyl	H	[illegible]	[illegible]	[illegible]	[illegible]
C_2H_5	Methyl-2-pyrrolidyl	H	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Methyl-2-pyrrolidyl	H	Oil	[illegible]	[illegible]	[illegible]

synthesized compounds are shown in the table. Orig. art. has: 1 table.
* [Abstractor's note: according to the ACS terminology-derivatives of imidazo[1,2-a]pyridine]. [WA-50; CBE No. 32][PC]

SUB CODE: 07/ SUBM DATE: 18May65/ ORIG REF: 002

Card 2/2

ACC NR: AP8016828 SOURCE CODE: UR/9091/67/000/005/0109/0111

AUTHOR: Krasnoshchekov, N.V.; Kuts, V.F.

ORG: Siberian Scientific Research Agricultural Institute (Sibirskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva)

TITLE: A device for taking soil samples

SOURCE: Vestnik sel'skokhozyaystvennoy nauki, no. 5, 1967, 109-111

TOPIC TAGS: agricultural machinery, soil

ABSTRACT: A gasoline-powered, hand-operated boring device weighing 12—13 kg has been used to extract soil samples. A bore length of 1 m is normal, but extensions permit sampling to a depth of 3 m at 10 cm intervals. An average of 100 m of sample length could be extracted per day, but improvements have increased productivity by 15—20%. A mechanized device for separating soil samples into weighing bottles has been lightened (from 23 to 18.5 kg) and consolidated into a single unit. An electrically-powered device agitates 48 soil samples in 0.5 ℓ bottles while they are chemically analyzed. An improved version capable of holding 100 bottles is being prepared. Orig. art. has: 3 figures.
[WA-50; CBE No. 32][PW]

SUB CODE: 06/ SUBM DATE: none

Card 1/1 UDC: 631.3:631.473

ACC NR: AP8017589 SOURCE CODE: UR/0192/68/009/002/0320/0322

AUTHOR: Matrosov, Ye.I.; Kabachnik, M.I.

ORG: Institute of Heteroorganic Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Manifestation of CH_3-P group hydrogen non-equivalence in the infrared spectra of organophosphorus compounds

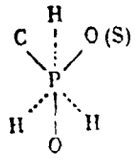
SOURCE: Zhurnal strukturnoy khimii, v. 9, no. 2, 1968, 320-322

TOPIC TAGS: phosphinic acid, hydrogen bonding, spectrum analysis, phosphinate ester, organophosphorus compound, IR spectrum, band spectrum

ABSTRACT: Infrared spectra of dimethylthiophosphinic and dimethylphosphinic acid salts showed that discrepancy in the position and number of methyl group bond-bending is due to disturbance of C_{3v} methyl group symmetry (non-equivalence of the hydrogen atoms). Projection of the

Card 1/2 UDC: 541.65

ACC NR: AP8017589



methyl group onto the pnosphorus along the P-C bond is shown in the configuration of title compounds. [WA-50; CBE No. 32][DC]

SUB CODE: 07/ SUBM DATE: 05Jul67/ ORIG REF: 005/ OTH REF: 005

Card 2/2

ACC NR: AP8019235 SOURCE CODE: UR/0464/68/000/002/0196/0199

AUTHOR: Mikstays, U. Ya.; Aren, A. K.

ORG: Riga Polytechnic Institute (Rizhskiy politekhnicheskiy institut)

TITLE: 2-(N'-substituted-N-piperazino)-2-arylindane-1,3-diones

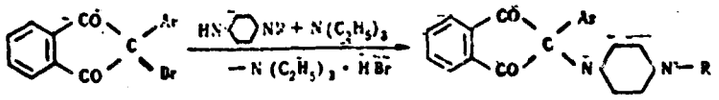
SOURCE: AN LatSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1968, 196-199

TOPIC TAGS: piperazine, indane, heterocyclic compound

ABSTRACT: A number of pharmacologically active compounds are found among piperazinoketones and their reaction products. 2-Bromo-2-aryl-indane-1,3-diones react with N-alkylpiperazines to form 2-(N'-alkyl-N-piperazino)-2-arylindane-1,3-diones. Derivatives of β-hydroxyethyl-piperazines were acylated with 3,4,5-trimethoxybenzoyl chloride to form 2-[N'-β-(3',4',5'-trimethoxybenzoyloxy)-ethyl-N-piperazino]-2-arylindane-1,3-diones. The products were isolated as monohydrochlorides. Some

Card 1/3 UDC: 547.665

ACC NR: AP8019235



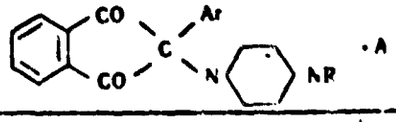
I

Ar = a) C_6H_5
b) $C_6H_4OCH_3$ (p)
c) $C_6H_3(OCH_3)_2$ (m, p)
d) C_6H_4Cl (p)

R = 1) CH_3
2) CH_2CH_2OH
3) $CH_2CH_2OCOC_6H_2(OCH_3)_3$ (3', 4', 5')

(R = CH_3, CH_2CH_2OH) eliminate hydrogen chloride easily. The indicated

Table 1



Compd	Ar	R	A	Mp (decomp) °C	Yield
Ia—1	C_6H_5	CH_3	HCl	275—276	71
Ia—2	C_6H_5	CH_2CH_2OH	HCl	266—267	74
Ib—1	$C_6H_4OCH_3$ (p)	CH_3	HCl	246—247	61

Card 2/3

ACC NR: AP8019235

Table 1. (Cont.)

Ib –2	$C_6H_4OCH_3$ (p)	CH_2CH_2OH	HCl	208—209	79
Ic –1	$C_6H_3(OCH_3)_2$ (m,p)	CH_3	HCl	263—264	77
Ic –2	$C_6H_3(OCH_3)_2$ (m,p)	CH_2CH_2OH	HCl	97—98	56
Id –1	C_6H_4Cl (p)	CH_3	HCl	270—271	61
Id –2	C_6H_4Cl (p)	CH_2CH_2OH	HCl	263—264	83
Ia –3	C_6H_5	$CH_2CH_2OTMB^*$	H_2SO_4	135—136	78
Id –3	C_6H_4Cl (p)	$CH_2CH_2OTMB^*$	H_2SO_4	154—156	88

* TMB—3,4,5-trimethoxybenzoyl.

structures are supported by IR spectral data. Orig. art. has: 1 table. [WA-50; CBE No. 32][VS]

SUB CODE: 07/ SUBM DATE: 11Jan67/ ORIG REF: 004/ OTH REF: 004

Card 3/3

ACC NR: AP8018793 SOURCE CODE: UR/0409/68/000/002/0284/0288

AUTHOR: Murasheva, V.S.; Buyanov, V.N.; Suvorov, N.N.

ORG: Moscow Institute of Chemical Technology im. D.I. Mendeleev (Moskovskiy khimiko-tekhnologicheskiy institut)

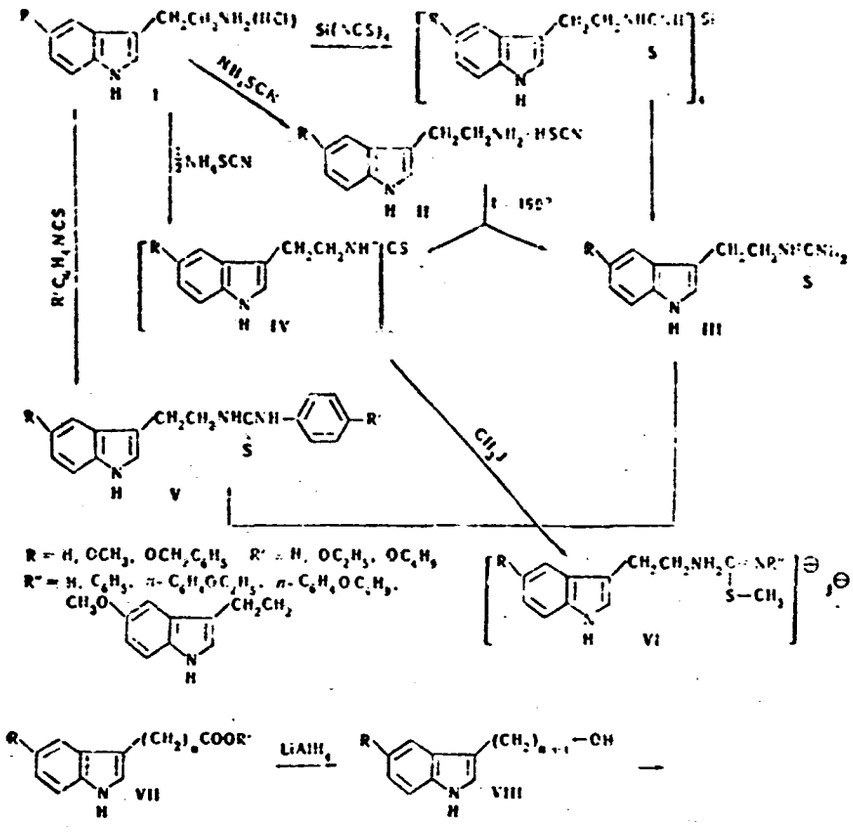
TITLE: Indole derivatives XXIX. Indolylalkylthiocarbamides

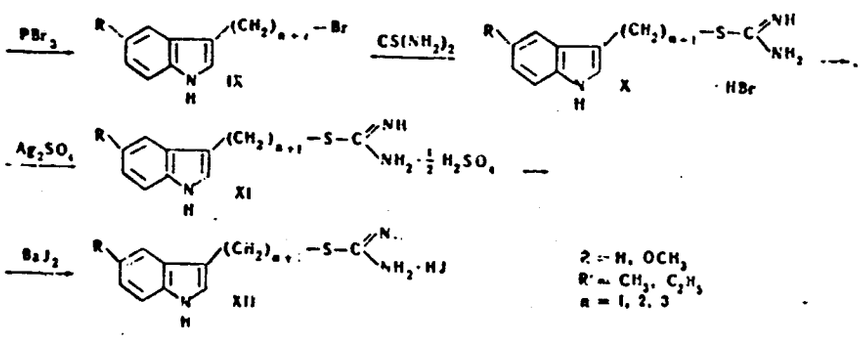
SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 2, 1968, 284-288

TOPIC TAGS: urea derivative, urea synthesis, thiocyanate, organic sulfur salt, alkyl carbamate, substituted amide, indole

ABSTRACT: A series of title compounds was synthesized according to the following general reactions:

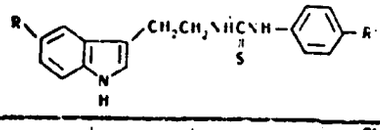
Card 1/5 UDC: 547.751.758+547.754+547.752





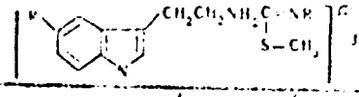
Some characteristics of similarly obtained compounds are shown in the

Table 1



R	R'	Mp, °C	% Yield
OCH_3	H	108—110	83,4
OCH_3	OC_4H_9	166—167	92,0
$OCH_2C_6H_5$	OC_2H_5	123—125	85
H	OC_2H_5	138,5—140,5	94,4

Table 2



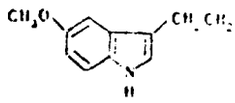
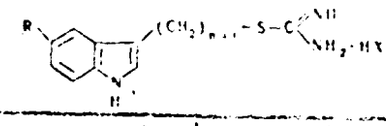
R''	R	Mp, °C	% Yield
C_6H_5	OCH_3	153—154,5	95,5
n-$C_6H_4OC_2H_5$	OCH_3	101—103 (Decomp)	85,5
n-$C_6H_4OC_4H_9$	OCH_3	91—98	91,0
	OCH_3	197—199 (Decomp)	72,0
n-$C_6H_4OC_2H_5$	H	124—126	92,0
n-$C_6H_4OC_2H_5$	$OCH_2C_6H_5$	180—182,5	93,0

Table 2



R	X	n	Mp, °C	% Yield
H	$\frac{1}{2}SO_4$	1	183—184	76

Table 2. (Cont.)

H	$C_6H_2O(NO_2)_2$	1	176—177	—
H	$\frac{1}{2}SO_4$	2	208—209	67,5
H	J	2	111,5—112,5	83,1
H	$C_6H_2O(NO_2)_3$	3	182	—

tables. The synthesized compounds were of interest because of their potential biological properties. Orig. art. has: 3 tables.

[WA-50; CBE No. 32][DC]

SUB CODE: 07/ SUBM DATE: 06May66/ ORIG REF: 004/ OTH REF: 007

ACC NR: AT8019301 SOURCE CODE: UR/0000/67/000/000/0230/0231

AUTHOR: Novikov, Ye.G.; Malykhin, A.P.; Shvetsova-Shilovskaya, K.D.; Mel'nikov, N.N.

ORG: All-Union Scientific Research Institute of Chemicals for Plant Protection, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Organic insecticide-fungicides. CI. Synthesis of some substituted pyridylethylureas and pyridylethylthioureas

SOURCE: AN LatSSR. Khimiya geterotsiklicheskikh soyedineniy. sb. 1: Azotsoderzhashchiye geterotsikly (Chemistry of heterocyclic compounds, no. 1: Nitrogen containing heterocycles). Riga, Izd-vo "Zinatne," 1967, 230-231

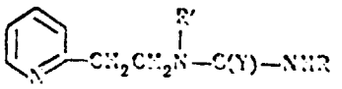
TOPIC TAGS: organic isocyanate compound, fungicide

ABSTRACT: In a search for new physiologically active compounds, a series of substituted pyridylethylureas and pyridylethylthioureas was synthesized by the reaction of substituted pyridylethylamines with isocyanates and isothiocyanates. The reaction mixture is boiled for 3—6 hr in benzene solution. The new compounds are characterized in the

Card 1/2 UDC: 630:54+547.822

ACC NR: AT8019301

Table 1



R	R'	Y	Mp, °C
C_6H_5	H	O	128—129
C_6H_4Cl-m	H	O	82—83
C_6H_4Cl-m	C_6H_5	O	93—95
C_6H_5	$C_6H_4CH_3$-o	O	101—105
C_6H_5	$C_6H_4CH_3$-m	O	93—94
C_6H_5	$C_6H_4CH_3$-p	O	94—95
C_6H_5	C_6H_4- c	O	101—102
C_6H_5	H	S	116—118
C_6H_5	C_6H_5	S	129—130
C_6H_5	$C_6H_4CH_3$-o	S	150—150,5
C_6H_5	$C_6H_4CH_3$-m	S	130—131
C_6H_5	$C_6H_4CH_3$-p	S	151—151,5
C_6H_5	C_6H_4-o	S	115—117
C_6H_5	C_6H_4-o	S	119—120

table. N-(4-picolyl)-N-ethyl-N'-phenylthiourea (mp 141—142°C) was also prepared by this method from N-(4-picolyl)-N-ethylamine and phenylisothiocyanate. All compounds showed weak physiological activity. Orig. art. has: 1 table. [WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 24Dec65/ OTH REF: 001

Card 2/2

ACC NR: AT8019302 SOURCE CODE: UR/0000/67/000/000/0232/0233

AUTHOR: Novikov, Ye.G.; Shvetsova-Shilovskaya, K.D.; Mel'nikov, N.N.; Malykhin, A.P.; Tugarinova, I.N.

ORG: All-Union Scientific Research Institute of Chemicals for Plant Protection, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: Organic insecticide-fungicides. CII. Synthesis of some pyridyl substituted ureas and thioureas

SOURCE: AN LatSSR. Khimiya geterotsiklicheskikh soyedineniy. sb. 1: Azotsoderzhashchiye geterotsikly (Chemistry of heterocyclic compounds, no. 1: Nitrogen containing heterocycles). Riga, Izd-vo "Zinatne," 1967, 232-233

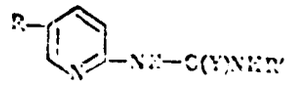
TOPIC TAGS: isocyanate, fungicide

ABSTRACT: To study the relation between the structure and physiological activity of potential insecticides and fungicides, a series of amino-pyridyl substituted ureas and thioureas was synthesized by boiling aminopyridines with isocyanates and isothiocyanates in dry benzene for 3 hr. The new compounds are characterized in the table. All compounds

Card 1/3 UDC: 630:54+547.822

ACC NR: AT8019302

Table 1



R	R'	Y	Mp, °C
H	C$_6$H$_5$	O	118—119°
Cl	C$_6$H$_5$	O	150
Cl	C$_6$H$_4$Cl-o	O	191—192° b
Cl	C$_6$H$_4$Cl-m	O	201—202°
Cl	C$_6$H$_4$Cl-p	O	201—202°
Cl	C$_6$H$_3$Cl$_2$-2,3	O	201—202°
Cl	C$_6$H$_3$Cl$_2$-2,4	O	201—202°
Cl	C$_6$H$_3$Cl$_2$-2,5	O	201—202°
Cl	C$_6$H$_3$Cl$_2$-2,6	O	201—202°
Cl	C$_6$H$_3$Cl$_2$-3,4	O	201—202°
Cl	C$_6$H$_3$Cl$_2$-3,5	O	201—202°
Cl	C$_6$H$_4$Cl-o	S	201—202° c
Cl	C$_6$H$_4$Cl-m	S	201—202° d
Cl	C$_6$H$_4$Cl-p	S	201—202°
Cl	C$_6$H$_3$Cl$_2$-2,3	S	201—202° e
Cl	C$_6$H$_3$Cl$_2$-2,4	S	201—202° f
Cl	C$_6$H$_3$Cl$_2$-2,5	S	201—202°
Cl	C$_6$H$_3$Cl$_2$-2,6	S	201—202°
Cl	C$_6$H$_3$Cl$_2$-3,4	S	201—202°
Cl	C$_6$H$_3$Cl$_2$-3,5	S	201—202°

Card 2/3

Table 1. (Cont.)

[illegible]	[illegible]	S	[illegible]
	[illegible]	S	195
	[illegible]	S	[illegible]
	[illegible]	S	[illegible]
Cl	[illegible]	S	[illegible]

* Literature data, a [illegible]; b 193° [illegible]; c 101—102° [illegible]; d 171° [illegible]; e 168—170° [illegible]; f 182° [illegible].

showed weak physiological activity. Orig. art. has: 1 table.
[WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 24Dec65/ ORIG REF: 002/ OTH REF: 004

ACC NR: AP8018792 SOURCE CODE: UR/0409/68/000/002/0278/0280

AUTHOR: Novikov, Ye.G.; Tugarinova, I.N.

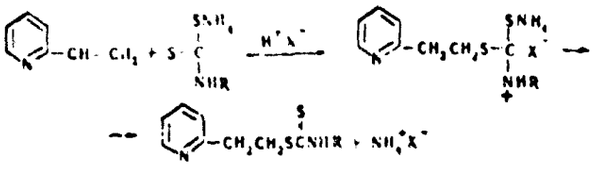
ORG: Eastern Scientific Research Institute of Coal Chemistry, Sverdlovsk (Vostochnyy nauchno-issledovatel'skiy uglekhimicheskiy institut)

TITLE: Pyridylethylation of N-aryldithiocarbamic acids

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 2, 1968, 278-280

TOPIC TAGS: pyridine, carbamic acid, thiocyanate, mercaptan, pesticide, organic isocyanate compound

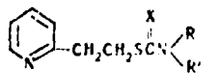
ABSTRACT: In a search for new pesticides a series of new compounds was formed from 2-vinylpyridine and thiourea in the presence of an acidic catalyst according to the probable reaction:



UDC: 541.69:547(82:495)

It is not free dithio acids but rather their salts which take part in the reaction. This is suggested by the fact that relatively strong dithio acids cannot be displaced from their salts by weak acetic acid. Some characteristics of synthesized compounds (I—XX) are given in the

Table 1



Compd	R*	Mp, °C	Yield, %
I	C_6H_5	114 —115	84
II	C_6H_4Cl-*m*	130 —131	91
III	$CH_2C_6H_5$	84 — 85	92
IV	C_6H_5	79 — 81	95
V	C_6H_5	137 —138	74
VI	$C_6H_4CH_3$-*o*	121,5—122,5	75
VII	$C_6H_4CH_3$-*m*	137,5—138,5	100
VIII	$C_6H_4CH_3$-*p*	153 —154	95
IX	$C_6H_4OCH_3$-*o*	114,5—115,5	100
X	$C_6H_4OCH_3$-*p*	128 —129	93
XI	$C_6H_4OC_2H_5$-*p*	103 —104	85
XII	C_6H_4OH-*o*	134 —135	92
XIII	C_6H_4OH-*p*	144 —145	90
XIV	$C_{10}H_7$-2	129 —131	95
XV	C_5H_4N-3	141 —142	54

Table 1. (Cont.)

XVI	$N(C_6H_5)_2$	155,5—156,5	85
XVII	NHC_6H_5	148 —149	83
XVIII	$NHCOC_6H_5$	124 —124,5	70
XIX	$NHCOC_6H_4NO_2$-*m*	132 —134	87
XX	$NHCOC_5H_4N$-3	126 —127	68

* In compounds I and II X = O, in III—XX X = S; in IV R' = CH_3, in the others R' = H.

table. Synthesized compounds (I—XX) were of interest because of their potential pesticidal properties. [WA-50; CBE No. 32][DC]

SUB CODE: 07/ SUBM DATE: 06Apr66/ OTH REF: 005

ACC NR: AP8019012 SOURCE CODE: UR/0366/68/004/005/0780/0782

AUTHOR: Pustoshkin, G.I.

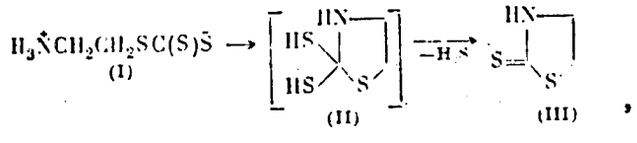
ORG: Military Medical Academy im. S.N. Kirov (Voyenno-meditsinskaya akademiya)

TITLE: Some conversions of 2- and 3-aminoalkyl trithiocarbonates

SOURCE: Zhurnal organicheskoy khimii, v. 4, no. 5, 1968, 780-782

TOPIC TAGS: aliphatic amine, sulfide, heterocyclic compound

ABSTRACT: The pharmacologically active zwitterions of aminoalkyltrithiocarbonic acids are unstable. To clarify the changes which the above compounds undergo in the organism, it was of interest to identify their decomposition products. The conversion



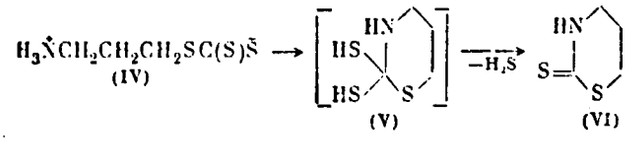
(I) (II) (III)

which is slow at room temperature, becomes quantitative on boiling in aqueous solution for 5 min (III, mp 107°C). The more stable IV under

Card 1/2 UDC: 547.494+547.789.1+547.279.3

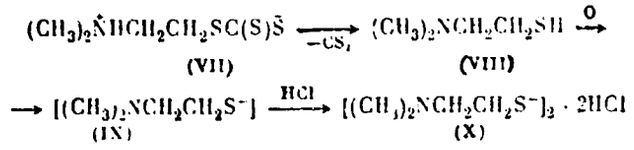
ACC NR: AP8019012

above conditions is similarly converted quantitatively to VI (mp 133°C).



(IV) (V) (VI)

When cyclization is precluded by the nature of the amino group, decomposition to disulfides occurs, even at room temperature. Very pure



(VII) (VIII) (IX) (X)

β-aminoethyl disulfide hydrochloride (mp 210—212°C) was thus obtained in 96% yield. [WA-50; CBE No. 32][VS]

SUB CODE: 07,11/ SUBM DATE: 26Aug67/ ORIG REF: 001/ OTH REF: 002

Card 2/2

ACC NR: AP8016091 SOURCE CODE: UR/0426/68/021/001/0044/0050

AUTHOR: Shiroyan, F.R.; Terzyan, A.G.; Khazhakyan, L.V.; Tatevosyan, G.T.

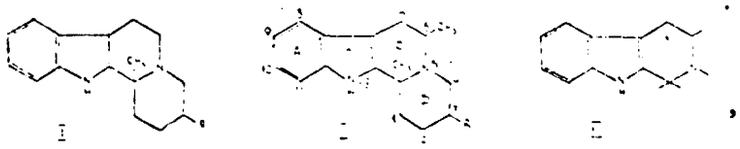
ORG: Institute of Fine Organic Chemistry, AN ArmSSR (Institut tonkoy organicheskoy khimii AN ArmSSR)

TITLE: Indole derivatives. XVIII. 3-Alkyl-6,12b-dimethyl-1,2,3,4,6,7,12,12b-octahydroindolo-(2,3-a)-quinolizines

SOURCE: Armyanskiy khimicheskiy zhurnal, v. 21, no. 1, 1968, 44-50

TOPIC TAGS: pharmaceutical, nitrogen compound

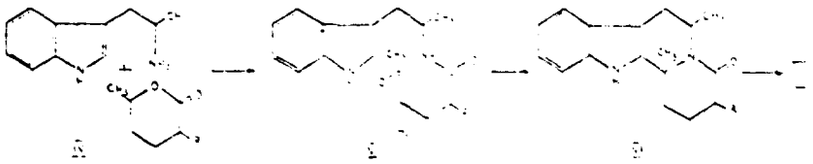
ABSTRACT: An earlier study revealed that some substituted tetrahydro-β-carbolines have hypotensive properties. In a search for new drugs among the analogs of carbolines I and II, which may be considered as tetracyclic analogs of tetrahydro-β-carbolines containing four substituents in the hydrogenated pyridine ring (III):



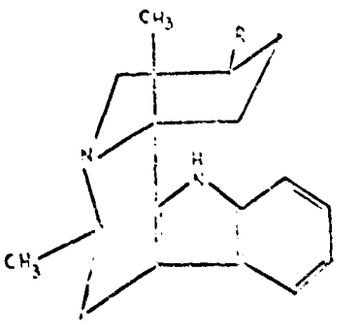
Card 1/3 UDC: 541.63+547.834.2

ACC NR: AP8016091

a series of substituted quinolizines II was synthesized via compounds VI:



IR spectra of the new compounds indicate the following structure of the diastereoisomers of II:



The new compounds VI and II are characterized in the tables. Results of

Card 2/3

Table 1

R	% Yield	Mp, °C
H	69,0	205—206
CH_3	85,1	250—251
C_2H_5	67,3	179—180
C_3H_7	69,8	193—194
C_4H_9	58,7	170—171

Table 2

II, R =	% Yield	Mp, °C
H	62,0	116—117
CH_3	63,0	115—116
C_2H_5	52,1	111—115
C_3H_7	47,3	118—119
C_4H_9	61,4	109—120

pharmacological study of the compounds synthesized will be published separately. Orig. art. has: 2 tables and 2 figures.

[WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 22Nov67/ ORIG REF: 001/ OTH REF: 003/ SOV REF: 002

AUTHOR: Skorobogatova, M.S.; Zolotareva, N.P.; Levin, Ya.A.

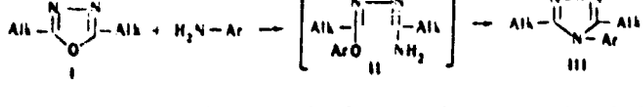
ORG: Institute of Organic and Physical Chemistry im. A.Ye. Arbyzov, Academy of Sciences, SSSR, Kazan' (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

TITLE: Conversion of 2,5-dialkyl-1,3,4-oxadiazoles into 3,5-dialkyl-2,4-oxadiazoles

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 2, 1968, 372-374

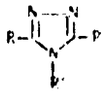
TOPIC TAGS: nitrogen compound, primary amine

ABSTRACT: On heating to 200—210°C, 2,5-dialkyl-1,3,4-oxadiazoles (I) reacted with an equimolar amount of primary amines to form 3,5-dialkyl-1,2,4-triazoles (III) via the intermediate II:



The triazoles prepared by this method are characterized in the table.

Table 1



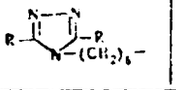
R	R'	Reaction time, hr	mp, °C	bp, °C (mm)	Yield, %
C_2H_5	C_6H_5	1	97–98	129–132 (0.035)	75
	o-$CH_3C_6H_4$	12	—	138–140 (11)	85
	m-$CH_3C_6H_4$	4	112–113	215 (10)	81
	p-$CH_3C_6H_4$	1	63–65	210–212 (9)	47
	o-$CH_3OC_6H_4$	11	210–211	187–189 (0.035)	40
	p-$CH_3OC_6H_4$	5.5	83–84	148–150 (0.05)	74
	p-$C_2H_5OC_6H_4$	7	80–81	237–239 (11)	70
	p-BrC_6H_4	24	99–100	220–240 (10)	51
		11	229–231	—	32
		6.5	—	275 (11)	24

Table 1. (Cont.)

n-C_3H_7	C_6H_5	10	67–68	134–138 (0.032)	63
	p-$CH_3C_6H_4$	14	29–31	130–131 (0.022)	64
	p-$CH_3OC_6H_4$	30	29–30	154–158 (0.035)	44
	α-$C_{10}H_7$	16	110–111	143–145 (0.035)	41
n-C_5H_{11}	C_6H_5	1	51–53	245 (11)	78

The use of hexamethylenediamine and 3-amino-1,2,4-triazole in this reaction makes it possible to obtain bistriazoles. Orig. art. has: 1 table. [WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 20Mar67/ ORIG REF: 002/ OTH REF: 001

ACC NR: AT8019289 SOURCE CODE: UR/0000/67/000/000/0025/0027

AUTHOR: Suvorov, N.N.; Murasheva, V.S.

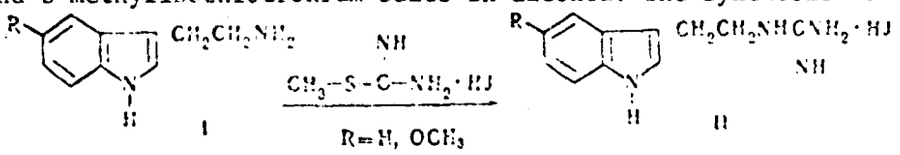
ORG: All-Union Chemical and Pharmaceutical Scientific Research Institute im. S. Ordzhonikidze, Moscow (Vsesoyuznyy nauchno-issledova[illegible]el'skiy khimiko-farmatsevticheskiy institut)

TITLE: Indole derivatives. XXVII. Indolylethylguanidines

SOURCE: AN LatSSR. Khimiya geterotsiklicheskikh soyedineniy. sb. 1: Azotsoderzhashchiye geterotsikly (Chemistry of heterocyclic compounds, no. 1: Nitrogen containing heterocycles). Riga, Izd-vo "Zinatne," 1967, 25-27

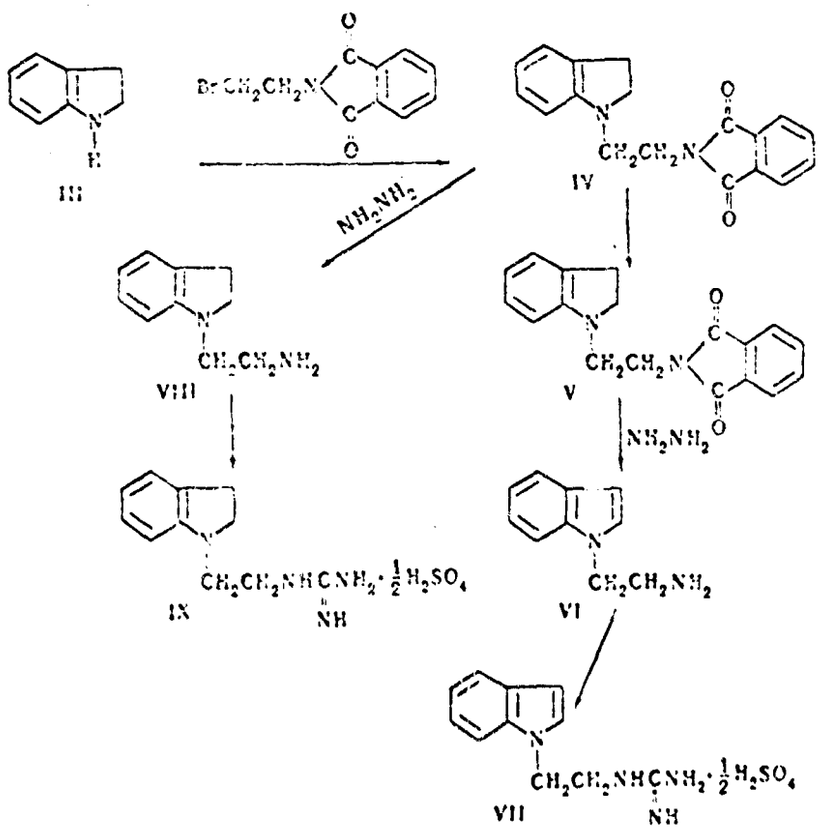
TOPIC TAGS: indole, urea derivative, guanidine, organic sulfur salt, secondary amine

ABSTRACT: Title compounds were synthesized by heating the appropriate amines and S-methylisothiouronium salts in alcohol. The synthesis is shown.



Card 1/3 UDC: 547.751+543.422

ACC NR: AT8019289



Card 2/3

ACC NR: AT8019289

These compounds were of interest because of their potential pharmacological properties. Some characteristics for the synthesized compounds

Table 1

Compd	Mp, °C	% Yield
I	143—145	84.4
II	138—141	65
IV	113—115	61.8
V	147.5—148.5	68
VI	167.5—168.5 (Decomp)	68
VII	230—231	22.8

are shown in the table. [WA-50; CBE No. 32][DC]

SUB CODE: 07/ SUBM DATE: 30Nov65/ ORIG REF: 003/ OTH REF: 006

Card 3/3

ACC NR: AP8016553 SOURCE CODE: UR/0394/68/006/005/0030/0031

AUTHOR: Tsymbal, M.M.; Filippova, N.I.; Burmistrov, S.I.; Titov, Ye.A.; Seraya, V.I.

ORG: VNII of Corn (VNII kukuruzy); Dnepropetrovsk Chemical and Technological Institute (Dnepropetrovskiy khimiko-tekhnologicheskiy institut)

TITLE: Antismut activity of some chemical compounds

SOURCE: Khimiya v sel'skom khozyaystve, v. 6, no. 5, 1968, 30-31

TOPIC TAGS: aromatic sulfur compound, fungicide, agricultural crop

ABSTRACT: The effectiveness of sodium 2,4-dinitrobenzenesulfonate (I), 2,4-dinitrophenyl ester of 1,4-benzoquinone oxime (II), incomplete 2,4-dinitrophenyl ester of 1,4-benzoquinone oxime (III), 1,3-thiazolidine-2-thione (IV), and sodium diethyldithiocarbamate (V) as fungicides against wheat smut (Tilletia levis and T. tritici) was studied in field experiments during the 1964 and 1965 vegetation periods. The results are summarized in the table. Field experiments using compound III as disinfectant of barley seeds against smut showed that in amounts of 1—2 kg/ton of seeds this fungicide has no negative effect on barley

Card 1/3 UDC: 632.95.024.13

Table 1. Effectivity of disinfectants against wheat smut.

Disinfectant	Amt of fungicide per ton of seed, kg	Wheat plants infested with smut in relation to sowing time, in %	
		optimum	late
(I)	0.5	0/—	—/—
	1.0	0/—	1.2/1.8
	2.0	0/0	2.5/3.3
(V)	0.5	0/0	1.7/2.7
	1.0	0/0	0.6/2.1
	2.0	0/0	0.0/0.2
(IV)	1.0	—/0	—/0.9
	2.0	—/0	—/0.3
(II)	1.0	—/0	—/0.5
	2.0	—/0	—/0.1
Granosan (standard fungicide)	0.5	0/0	0/0
Control (without disinfection)	—	0.8/1.3	8.4/18.5

Note: Numerator denotes data for 1964 and denominator data for 1965.

Card 2/3

ACC NR: Ar8016553

and decreased the occurrence of barley smut by 40% as compared with the control. Orig. art. has: 1 table. [WA-50; CBE No. 32][PS]

SUB CODE: 02, 07/ SUBM DATE: 27Feb67/ ORIG REF: 003/ OTH REF: 003

Card 3/3

ACC NR: AP8016548 SOURCE CODE: UR/0390/68/031/002/0209/0213

AUTHOR: Verkhovskiy, Yu.G.; Kokina, L.P.

ORG: Division of Radiation Pharmacology /Head—Prof. K.S. Shadurskiy/, Institute of Medical Radiology /Dir—Active Member AMN SSSR, Prof. G.A. Zedgenidze/, AMN SSSR, Obninsk (Otdel radiatsionnoy farmakologii Instituta meditsinskoy radiologii AMN SSSR)

TITLE: Toxicological and antiserotonin properties of γ-carboline derivatives

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 2, 1968, 209-213

TOPIC TAGS: serotonin, tranquilizer, toxicity, toxicology

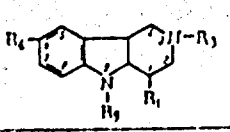
ABSTRACT: Toxicology and antiserotonin properties of 28 tetrahydro-γ-carboline derivatives were investigated in relation to chemical structure. Toxicity of the compounds increased sharply with increasing length of the hydrocarbon chain at the 3-position. Compounds II, III, IV, VII, X, XIII, with hydrogen at the 6 position, were more toxic than their analogs with methyl groups (V, VIII, XI, XIV, XXVII, XXVIII). This relationship disappears when there are more than 5 carbons in the chain. A change in the position of the nitrogen in the pyridine ring (R_9) from the 4 to

UDC: 615.787-099-015.
.11+615.787-092:612.337

Card 1/4

ACC NR: AP8016548

Table 1. Chemical structure and some pharmacological effects of gamma-carboline derivatives



N	R_2	R_6	R_7	R_9	Toxicity, intraperitoneal (mice, mg/kg) Maximum tolerable dose	Toxicity, intraperitoneal (mice, mg/kg) $LD_{50} \pm m$	Antiserotonin effect No. of mice in experiment	Antiserotonin effect No. of mice with no diarrhea	Antiserotonin effect length of diarrhea (in min), $M \pm m$
Control (5-oxytryptophan)							20	0	35,5±0,81
I	H	CH_3	CH_3	H	160	183,5±4,1	20	12	16,8±2,75
II	H	CH_3	H	CH_2	100	137,0±3,6	10	0	27,2±0,31
III	H	C_2H_5	H	CH_2	130	116,0±3,8	10	0	24,9±1,71
IV	H	C_3H_7	H	CH_2	60	71,5±3,8	10	0	30,5±0,61
V	H	C_3H_7	CH_3		70	91,5±1,3	10	0	36,9±1,29
VI	H	C_4H_9	$O-CH_3$		200	220,0±7,3	10	0	21,3±0,6
VII	H	C_5H_{11}-n	H	CH_3	30	46,5±3,5	10	0	33,9±1,6
VIII	H	CH_3-n	CH_3		70	87,6±1,1	10	0	29,9±1,11

Card 2/4

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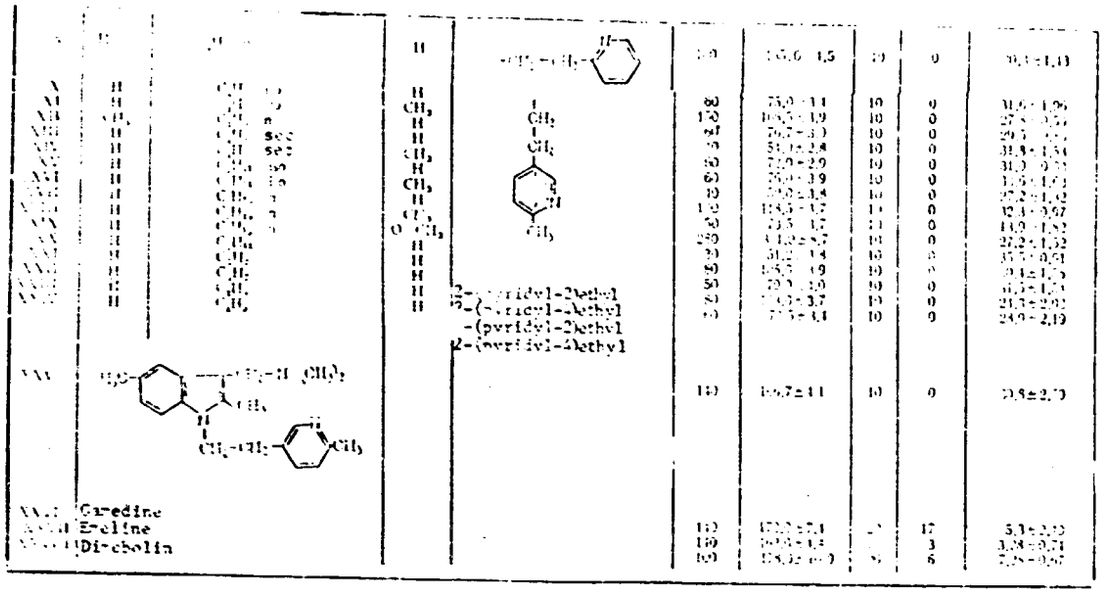
ACC NR: AP8016548

Table 1. (Cont.)



Card 3/4

ACC NR: AP8016548

the 2 position lowers toxicity sharply (XXI,XXII,XXIII,XXIV), and the least toxic compounds have a methoxy group at the 6 position (VI,XIX). Signs of poisoning appeared within 5—26 hr depending on the compound. Tremors or convulsions seldom lasted more than 2—12 min. Antiserotonin properties appeared in compounds containing methyl, ethyl or methoxy groups at the 1, 3 or 6 position. The most active antiserotonin agents were compounds I, XXVI,XXVII, and XXVIII. Another determining factor was the substituent at the 9 position. The absence of effect for compound XXV signifies the significance of the carboline nucleus. Orig. art. has: 1 table.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 02Dec66/ ORIG REF: 009/ OTH REF: 001

Card 4/4

ACC NR: AP8016094 SOURCE CODE: GE/9007/68/037/05-/0243/0251

AUTHOR: Wolf, F.; Meissner, D.

ORG: Institute of Technical Chemistry, Martin Luther University, Halle-Wittenberg (Institut fur Technische Chemie der Martin-Luther-Universita.); Chemical and Biological Institute of VEB Dye Plant, Wolfen (Chemisch-Biologisches Institut des VEB Farbenfabrik)

TITLE: The relation between the structure and insecticidal activity of some acetylphenyl esters of phosphoric and thiophosphoric acids

SOURCE: Journal fur praktische Chemie, v. 37, no. 5-6, 1968, 243-251

TOPIC TAGS: organic phosphorus insecticide, phosphate ester

ABSTRACT: The effect of the nature and position of various substituents in substituted acetylphenyl esters of phosphoric and thiophosphoric acids on their insecticidal activity was studied by determining LD_{50} (on Musca domestica) of the following esters prepared by the known Friedel-Krafts reaction and by the reactions of methanol or ethanol with $POCl_3$ or $PSCl_3$: 0,0-diethyl O-(4-acetylphenyl) phosphate, bp 167—169°C (0.02 mm); 0,0-diethyl O-(3-acetylphenyl) phosphate, bp 139—141°C (0.001 mm); 0,0-diethyl O-(4-acetylphenyl) thiophosphate, d_{20} 1.178,

Card 1/6

ACC NR: AP8016094

n_D^{25} 1.5251; 0,0-diethyl O-(3-methyl-4-acetylphenyl) thiophosphate, mp 56°C; 0,0-diethyl O-(3-chloro-4-acetylphenyl) thiophosphate, n_D^{25} 1.5491; 0,0-dimethyl O-(2-chloro-4-methyl-6-acetylphenyl) thiophosphate, n_D^{25} 1.5468; 0,0-dimethyl O-(3-methyl-4-chloro-6-acetylphenyl) thiophosphate, n_D^{25} 1.5510; 0,0-dimethyl O-(3,4-dichloro-6-acetylphenyl) thiophosphate n_D^{25} 1.5631; 0,0-dimethyl O-(3,5-dimethyl-6-acetylphenyl) thiophosphate, n_D^{25} 1.5198; and 0,0-dimethyl O-(3-methyl-4-nitro-6-acetylphenyl) thiophosphate, n_D^{25} 1.5593. It is known that there is a relationship between the insecticidal activity of organophosphorus compounds and the rate constant of their hydrolysis (pK), the Hammett constant (σ) of the substituents in the phenol group, and the OH valence vibration frequencies shift ($\Delta\nu_{OH}$). These characteristics were determined for the above esters and compared with LD_{50} values. The experimental data are reported in Tables 1-5 and Figs. 1 and 2. When the esters contain p-substituted

Table 1

Substituent	pK_A of Phenols	$\Delta\nu_{OH}$	LD_{50} fly γ/g
4—$COCH_3$	8,05	—10 cm^{-1}	8
3—$COCH_3$	9,10	— 1 cm^{-1}	102
H	10,00	—	1500

Card 2/6

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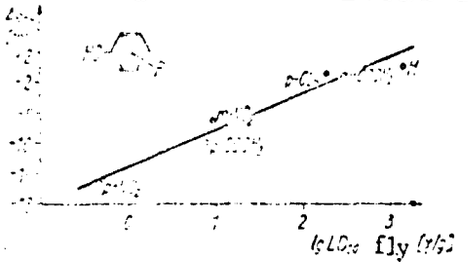


Fig. 1. Dependence of the activity of diethyl phosphate on the acidity of the phenol group.

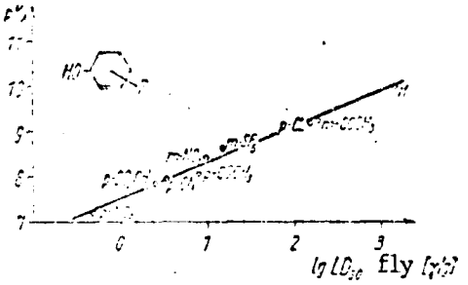


Fig. 2. Dependence of biological activity of diethyl phosphate against housefly on the shift in OH valence vibration of the phenol group (relative to unsubstitute phenol).

Table 2

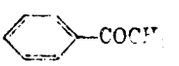
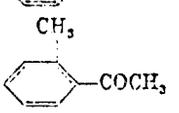
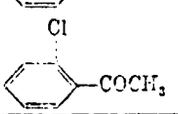
$(C_2H_5O)_2\overset{S}{\overset{\uparrow}{P}}-O-Aryl$	LD_{50} fly γ/g	LD_{50} rats mg/kg
Aryl:		
	10.4	1706
	18.5	3000
	175.0	4000

Table 3

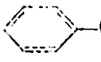
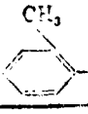
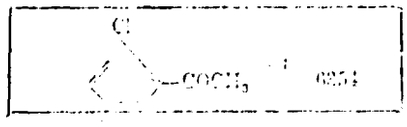
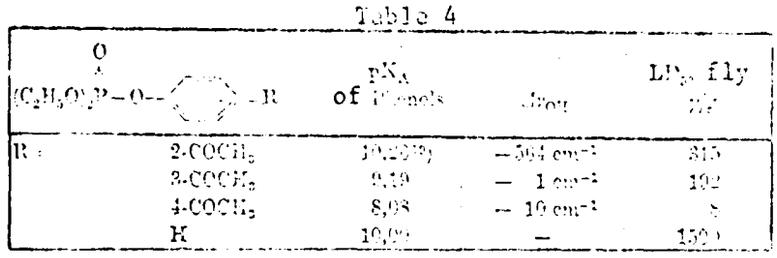
$(C_2H_5O)_2\overset{S}{\overset{\uparrow}{P}}-O-Aryl$	ε_{max}
Aryl = 	6693
	6500

Table 2. (Cont.)



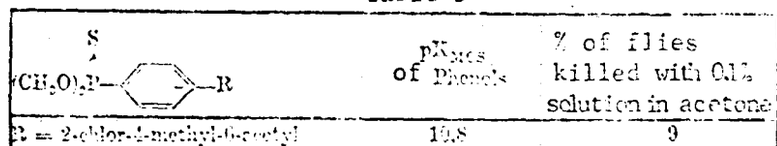
GRAPHIC NOT REPRODUCIBLE

Table 4



R =		pK$_A$ of Phenols	$\Delta\nu_{OH}$	LD$_{50}$ fly %
	2-COCH$_3$	10,29[3]	−564 cm^{-1}	815
	3-COCH$_3$	9,19	− 1 cm^{-1}	100
	4-COCH$_3$	8,08	− 10 cm^{-1}	5
	H	10,0[3]	−	150

Table 5



	pK$_{HCl}$ of Phenols	% of flies killed with 0.1% solution in acetone
R = 2-chlor-5-methyl-6-acetyl	10,8	9
3,4-dichlor-6-acetyl	8,5	66
3-methyl-4-chlor-6-acetyl	11,3	100
3,5-dimethyl-6-acetyl	10,6	100
3-methyl-4-nitro-6-acetyl	8.1	100

phenol groups, there is a linear dependence between LD_{50} and pK and $\Delta\nu_{OH}$ values. This is attributed to both the inductive and resonance effects of the substituents in p-position. For esters with substituents in m-position, the linear dependence between LD_{50} and pK and $\Delta\nu_{OH}$ was not observed. In this case the substituent has only inductive effect and therefore it has a lesser effect. The absence of a linear dependence between LD_{50} and pK and $\Delta\nu_{OH}$ for esters with several substituents in the phenol group is attributed to steric hindrance or to the intramolecular H-bridge formation. Orig. art. has: 6 tables and 2 figures.

[WA-50; CBE No. 32][PS]

SUB CODE: 07/ SUBM DATE: 14Aug67/ ORIG REF: 006/ SOV REF: 003/ OTH REF: 013

ACC NR: AP8016128 SOURCE CODE: UR/0177/68/000/004/0003/0007

AUTHOR: Agafonov, V. I. (Colonel, Medical service, Docent)

ORG: none

TITLE: Future problems in decreasing infectious morbidity in troops

SOURCE: Voyenno-meditsinskiy zhurnal, no. 4, 1968, 3-7

TOPIC TAGS: biologic warfare agent, biologic warfare protection, influenza vaccine, military medicine, epidemiology

ABSTRACT: Military and civilian medical personnel are concentrating on means of lowering the incidence of infectious hepatitis, dysentery, and acute respiratory infections; that is, diseases for which the morbidity is dependent on population concentration and mode of life. The medical corps must develop new means of anti-dysentery protection and improve the diagnosis and therapy of patients. Most cases of dysentery are caused by *Shigella sonnei*, and means of stimulating body defenses are needed. Other intestinal infections at military posts are caused by *Salmonella*, pathogenic *E. coli*, and enteroviruses. The most important task of military epidemiologists is improving the differential diagnostic methods for these infections, and more research is needed in appropriate branches of virology,

Card 1/3

ACC NR: AP8016128

microbiology and immunology. Insufficient studies of the military aspects of Coxackie and ECHO virus infections have been made. In 1968, increased efforts against dysentery are urged. Analysis of 1967 dysentery outbreaks showed that, in most cases, insufficient epidemiological alertness resulted in the disease becoming well established before prophylactic measures were taken. The most important military medical problem is acute respiratory infection, especially influenza. Interferon has been tried recently, not only against influenza, but against other respiratory viruses. Investigations of interferon and cellular immunity in general are under way. The action of interferon is nonspecific. Ultraviolet inactivated influenza viruses have been used as interferon stimulators. As a result, morbidity from influenza and other respiratory viruses has been lowered 3—3.2 times in test situations. Chemotherapeutic trials with amantadine and its derivatives as well as with live A_2 vaccine have been successful. The prophylactic effect of certain anti-influenza preparations (lactoglobulin, donor gamma-globulin, crystalline lysozyme mixed with ecmolin, etc.) have been effective in large-scale epidemiological trails when given intranasally or perorally. Goals for further military medical research include increased production and higher quality of influenza vaccine, improvement of methods for rapid procurement of highly immunogenic strains, increasing active virus content in preparations, and improvements of vaccine production technology. Better coordination of anti-epidemic procedures is recommended.

Card 2/3

II. BIOLOGICAL FACTORS

ACC NR: AP8016128

In 1966—1967 military bacteriologists have been reporting improvements in disease diagnosis and prediction of epidemics on the basis of various conditions of military activity. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AT8015332 SOURCE CODE: UR/0000/65/000/000/0219/0224

AUTHOR: Artykov, M.S.

ORG: Uzbek Institute of Hygiene, Sanitation and Occupational Diseases (Uzbekskiy institut gigiyeny, sanitarii i profzabolevaniy)

TITLE: Detecting typhoid and dysentery bacteria in the soil with the reaction of increasing phage titer

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina," 1965, 219-224

TOPIC TAGS: bacteriophage, dysentery, typhoid fever, soil bacteriology

ABSTRACT: The reaction of increasing phage titer (RIPT) can be used to indicate the presence of pathogenic typhoid and dysentery bacteria in the soil in foci of gastrointestinal infection as an adjunct to standard bacteriological tests. Soil tests were conducted in unsafe areas without sewage systems, and in areas considered safe with respect to gastrointestinal infections, using specific phages with titers of 1×10^{-9} (typhoid) and 1×10^{-9} (dysentery). Test results are shown in Table 1. Testing of soil samples from unsafe areas for dysentery bacteria almost

Card 1/2 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015332

Table 1. Positive results of the reaction of increasing phage titer and bacteriological tests of soil depending on the season.

Region	Number of samples taken	Seasons of study	Coli titer	Typhoid				Dysentery			
				RIPT		Bacteriological tests		RIPT		Bacteriological tests	
				Total number	%	Total number	%	Total number	%	Total number	%
No sewage system	44	Spring	0,1—0,00001	3	6,8	2	4,6	—	—	2	4,5
	44	Summer	0,1—0,0001	—	—	—	—	—	—	5[1]	11,3
	44	Fall	0,1—0,01	2	4,5	—	—	—	—	2[1]	4,5
With sewage system	16	Spring	0,1—0,001	—	—	—	—	—	—	—	—
	10	Summer	0,1—0,01	—	—	—	—	—	—	—	—
	10	Fall	1,0—0,1	—	—	—	—	—	—	—	—

a year after a recorded outbreak probably caused the negative RIPT. Orig. art. has: 1 table and 2 figures. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT8015318 SOURCE CODE: UR/0000/65/000/000/0138/0143

AUTHOR: Bagzhanova, V. A.

ORG: Institute of Virology im. D. I. Ivanovskiy, AMN SSSR (Institut virusologii AMN SSSR)

TITLE: Viability of tickborne encephalitis and other viruses in milk and water

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina", 1965, 138-143

TOPIC TAGS: virus viability, tickborne encephalitis virus, biologic agent detection, biologic agent sampler, Japanese B encephalitis, equine encephalomyelitis

ABSTRACT: The discovery of the alimentary route of infection with tickborne encephalitis necessitates the determination of the viability of the virus in food products and water. A viral suspension from white mouse brains was inoculated into various substrates to duplicate, as much as possible, natural routes of infection. Samples of the media were taken periodically to determine the inactivation of the virus with time. At the

Card 1/5 UDC: 614.4-078+576.8:614.4

start of the experiment each 0.03 ml contained 1000 LD_{50} for mice. Incubation temperatures were 37°, 18—24°, 4—6° and -20°C. The virus persisted at 37°C a maximum of 5 days in physiological saline solution and about 3 days in distilled, tap and river water. Figures 1, 2, and 3 show the results of other experiments and the duration of virus survival for

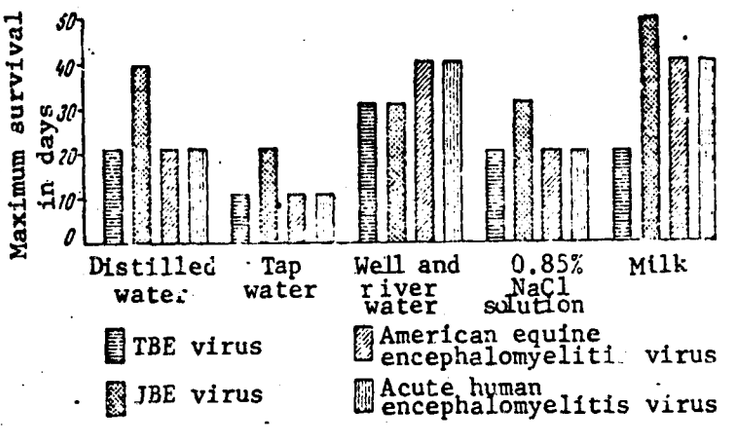


Fig. 1. Survival of neuroviruses at 16—24°C

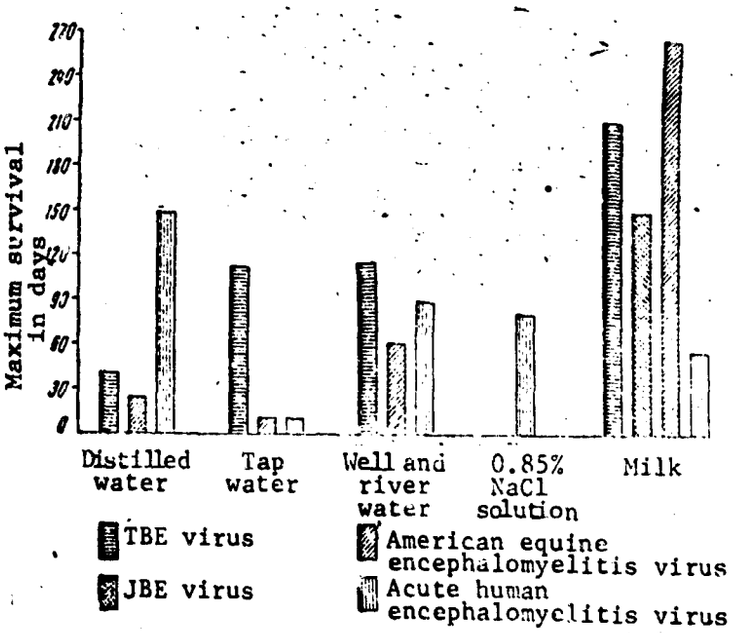


Fig. 2. Survival of neuroviruses at 4—6°C

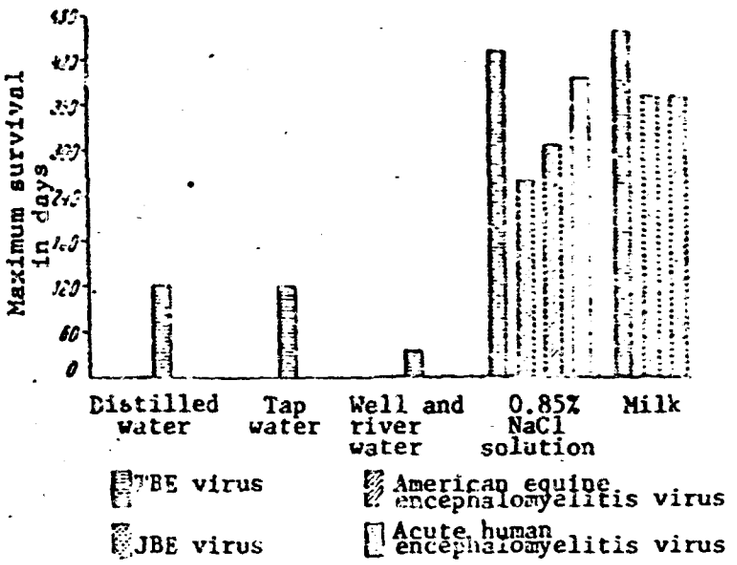


Fig. 3 Survival of neuroviruses at -20°C

each. The amount of substrate profoundly altered survival time of the viruses. JBE virus in a 10 ml volume survived 60 da at 18—24°, while in 1000 ml virus was detected after 150 da. Similar results held with [illegible] viruses and other substrates. The concentration of virus also altered survival time. Orig. art. has: 4 figures.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

ACC NR: AT8015306 SOURCE CODE: UR/0000/65/000/000/0061/0068

AUTHOR: Bugrova, V. I.

ORG: Moscow Scientific Research Institute of Hygiene im. F. F. Erisman (Moskovskiy nauchno-issledovatel'skiy institut gigiyeny)

TITLE: The use of infrared spectrophotometry to accelerate the identification of microbes

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina", 1965, 61-68

TOPIC TAGS: biologic agent detection, rapid diagnostic method, IR spectrophotometry, Escherichia coli, staphylococcus, enterococcus, (U)IKS14 spectrophotometer

ABSTRACT: Since most reliable diagnostic methods for identifying microorganisms require at least 30 hr for confirmatory identification, a suitable infrared spectrophotographic method, utilizing the principle that the chemical components of each type of microbial cell are unique to that species and can be identified, is described. Preparation of sample and obtaining the spectrogram require about 3—3½ hr, and interpretation of

Card 1/2 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015306

the spectrogram by an expert brings the total time required to 15—18 hr. As the method is refined, the latter figure can be reduced. Absorption bands around 6.4—6.5μ indicate polypeptide residues, at 8—8.1μ nucleic acids, and at 8.6—10μ nucleic acids and hydrocarbons simultaneously. Fatty acids appear at 5.7—5.8μ. Infrared spectrograms were made of *E. coli*, *Enterococcus* and *Staphylococcus* cultures with a IKS-14 IR spectrophotometer. Uniformity of results requires utmost care in calibration of the apparatus and preparation of samples and requires pure solvents and other materials. Two sets of spectrograms, one of intact cells and another of cell extracts, were made and compared. Later preparation techniques could be simplified since spectrograms of washed and unwashed cells did not differ appreciably. Spectrograms were made at wavelengths of 5 to 15μ. Superficially the three sets of spectrograms were similar, but there were many differences in detail. The most significant differences appeared at 8—10μ. Analysis of the data, using data processing equipment, showed that the microorganisms could be differentiated on the basis of their spectra. Cell fractions presented more complicated but basically similar graphs, and it was concluded that intact cells could be used for simple, rapid identification and cell fractions for more detailed analysis. Orig. art. has: 2 figures. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8016[illegible]556 SOURCE CODE: UR/0081/68/000/002/0046/0053

AUTHOR: Dunin, M. S. (Academician VASKhNIL); Gordeychuk, A. I.

ORG: Moscow Agricultural Academy im. K. A. Timiryazev (Moskovskaya sel'skokhozyaystvennaya akademiya)

TITLE: Use of different types of isolators for obtaining antiviral sera

SOURCE: Vestnik sel'skokhozyaystvennoy nauki, no. 2, 1968, 46-53

TOPIC TAGS: serology, medical equipment, antiviral agent, plant virus, plant parasite, plant metabolic product

ABSTRACT: Six types of isolators used for collecting plant viruses are described. The plants can be grown in slatted, frame, glassed-in, or plastic-covered containers of various sizes. In this study, all isolators tested contained plants infected with potato virus X or Y. The six isolators tested were either frame or slatted types. Detailed descriptions of each isolator and its effectiveness are given. Orig. art. has: 4 figures and 5 tables. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 018/ OTH REF: 010

Card 1/1 UDC: 576.8.093.38

ACC NR: AP8016819 SOURCE CODE: UR/9063/68/002/002/0081/0087

AUTHOR: Garibova, L. V.

ORG: Department of Lower Plants, Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet, Kafedra nizshikh rasteniy)

TITLE: Antagonistic activity of the cultivated mushroom mycelium

SOURCE: Mikologiya i fitopatologiya, v. 2, 1968, 81-87

TOPIC TAGS: agriculture crop, mushroom, antibiotic research, bacteriostasis

ABSTRACT: The cultivated mushroom *Agaricus bisporus* is often infected with *Mycogone perniciosa*, which results in deformation of the crown and subsequent multiplication of bacteria in a secondary infection. Some strains are resistant, but the nature of this resistance had been little studied. Extensive studies of the physiology and interaction of the parasite mycelia with resistant and nonresistant strains showed that antibiotic activity of the mushroom was unconnected with its resistance to the pest. Possibly this resistance is caused by a specific, genetically determined metabolic pathway. Orig. art. has: 4 tables and 3 figures. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 14Jan67/ ORIG REF: 013/ OTH REF: 013

Card 1/1 UDC: 582.[illegible]87.238:581.19

ACC NR: AP8016542 SOURCE CODE: UR/0369/68/031/002/0145/0149

AUTHOR: Golikov, S. N.; Razumova, M. A.; Selivanova, A. T.

ORG: none

TITLE: Mechanisms underlying disturbances of the higher nervous functions produced by anticholinesterases

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 2, 1968, 145-149

TOPIC TAGS: cholinolytic agent, cholinesterase inhibitor, nervous system drug effect, pharmaceutical, pharmacodynamics, cholinesterase reactivator

ABSTRACT: Native brain cholinesterase participates actively in the derangement of conditioned reflex activity caused by the organophosphorus compound armine. The reactions between armine and the cholinesterase reactivators monoisonitroacetone (MINA) and 1,1-trimethylene-bis-4-formylpyridoxime dibromide (TMB-4) were investigated. Armine was given to rats in 0.001, 0 005, 0.01, 0.02, 0.03 and 0.05 mg/kg doses, and the reactivator was given 15 min later. Diminished latent periods and accelerated motor response were observed at 0.005—0.01 mg/kg armine doses. Increased motor activity and loss of appetite also occurred. At 0.02—0.03 mg/kg, the latent period was extremely short and conditioned response reflexes were inhibited for 1—2 hr. Complete recovery occurred by the 2—3rd da. Depending on

Card 1/2 UDC: 616.831.51-009.81-039:616.85]-02:615.785.4

ACC NR: AP8016542

the armine dose, cholinesterase activity in the brain decreased 10--60%, and serum cholinesterase levels were also very low after administration of armine. At 0.001 mg/kg doses brain cholinesterase activity increased in comparison to controls. Training of the animals also produced increases in brain cholinesterase activity. Cholinesterase reactivators (MINA—10 mg/kg and TMB-4—5 mg/kg) in nontoxic concentrations were effective at shortening recovery time. Taking into account that brain cholinesterase activity in trained animals was 8% higher than that of untrained animals, motor activity was restored within 2 hr in all test animals (those receiving both armine and reactivator). The structure of TMB-4 (quaternary nitrogen compound) and its poor penetration of the blood brain barrier were cited as the reasons for its relative ineffectiveness at reactivating brain cholinesterase while at the same time it was 100% effective in the blood. Orig. art. has: 1 figure. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 01Mar67/ ORIG REF: 014/ OTH REF: 004

Card 2/2

ACC NR: AP8019006 SOURCE CODE: UR/0479/68/000/001/0025/0028

AUTHOR: Ivashurova, I.N.; Lavrova, V.V.; Mamayev, V.I (Chief physician)

ORG: Republic Sanitation and Epidemiological Station /Head physician— V.I. Mamayev/ (Respublikanskaya sanitarno-epidemiologicheskaya stantsiya)

TITLE: Smallpox vaccination and postvaccinal complications

SOURCE: Zdravookhraneniye Turkmenistana, no. 1, 1968, 25-28

TOPIC TAGS: smallpox vaccine, vaccination reaction

ABSTRACT: Postvaccinal complications from smallpox inoculation can appear as skin rashes, aggravation of an existing somatic disease, or CNS complications (encephalitis or meningoencephalitis), which may be fatal. Complications and lethal reactions are more prevalent if the primary smallpox vaccination is delayed beyond 10—12 months of age. Smallpox gamma globulin should be injected with vaccine for primary vaccinations after 1 yr of age and revaccinations of immunologically incompetent people. Use of 10% human gamma globulin from patients recently vaccinated against smallpox can decrease the frequency of encephalitic and other complications. Thiosemicarbazones are also used to treat postvaccinal complications. Of 300,000 annual smallpox

Card 1/2

ACC NR: AP8019006

inoculations in the Turkmen SSR in recent years, two cases of cutaneous complications have been reported. A lethal case of postvaccinal encephalitis (not occurring in Turkmenistan) is also described. After two unsuccessful attempts at smallpox vaccination at 13 months and 18 months of age, the child was vaccinated at age 4. Thirteen days later she was hospitalized with a temperature of 38°C, unconscious, with weak corneal reflexes, decreased muscle tone, and a pulse rate of 112. The child died, in spite of antibiotic therapy, from diffuse demyelinizing encephalitis. The nature of postvaccinal encephalitis from smallpox vaccinations is still not explained and requires further study.
[WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT8015323 SOURCE CODE: UR/0000/65/000/000/0166/0170

AUTHOR: Kichenko, M.G.; Talayeva, Yu.G.

ORG: Institute of General and Communal Hygiene im. A.N. Sysin, AMN SSSR (Institut obshchey i kommunal'noy gigiyeny AMN SSSR)

TITLE: Methods of rapid detection of typhoid and dysentery bacteria in water

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina," 1965, 166-170

TOPIC TAGS: water pollution, dysentery, typhoid fever, serologic test, rapid diagnostic method

ABSTRACT: Isolation of pathogenic enteric bacteria from water can be accomplished in 18 hr instead of the usual 3 days by using faster methods at the three principal stages in the process: concentration of bacteria from water, culturing on nutrient media, and identification of pure cultures by biochemical, serological and other methods. Concentration of bacteria by filtration through membrane filters or filters of new synthetic materials such as FPP-5 is considered the most efficient

Card 1/2 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015323

of the available concentration methods. With the FPP-5 filter, mechanical filtration and electroprecipitation are combined. Cultivation of pathogenic bacteria can be improved by broad scattering of concentrated bacteria over the surface of the medium and by aeration (of liquid media). Visible growth can be achieved in 8—10 hr on semisolid media if a cultivation temperature of 39—40°C is employed. Luxuriant growth of pathogenic bacteria in 8—10 hr was also obtained by adding 2—3 ml of oat shoot extract per 10—12 ml of nutrient medium. Study of the biochemical activity of isolated bacteria can be accelerated to 3—5 hr (from the usual 20—24 hr) by cultivating on a small number of differential media preheated to 39°C, with increased concentrations of indicator. The microagglutination reaction with luminescent sera is not considered suitable for rapid diagnosis of pathogenic enteric bacteria because of the predominance of mixed cultures, where nonspecific fluorescence of Paracolon bacteria may confuse interpretation. Luminescent sera are restricted to an auxiliary role in identification of the antigenically complex enteric bacteria, and must be accompanied by biochemical studies. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT8015313 SOURCE CODE: UR/0000/65/000/000/0109/0113

AUTHOR: Kiktenko, V.S.; Kudryavtsev, S.I.; Pushchin, N.I.

ORG: none

TITLE: Comparative evaluation of the effectiveness of bacteriological traps for employment in a method for determining the concentration of a bacterial aerosol

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina," 1965, 109-113

TOPIC TAGS: biologic aerosol, bacterial aerosol, biologic agent filter

ABSTRACT: Bacterial traps employing sedimentation or filtration were compared for accuracy. The most accurate method is one which uses a trap attached to a photoelectric particle counter. A method of calculating aerosol concentration based on such recordings is presented. Test organisms were *Chromobacterium prodigiosum* and *Bacillus subtilis* with average particle sizes of 5 μ. Various filters and the Kitenko, Rechmenskiy, D'yakonov, Rudenko and Vershigor devices were used as traps.

Card 1/2 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015313

Insignificant quantities were best caught by cotton paper-glass wool filters. In another experiment, (bouillion aerosol) particle sizes averaged 0.31—0.34 μ and were also caught sucessfully by these filters. The least efficient traps had gelatine film filters. The concentration of an aerosol may be calculated by the formula $n = \frac{d \cdot N}{W} = \frac{N}{V}$, where N is the number of particles counted, d is the diaphragm aperture constant, W is the total volume of aerosol chamber, and V is the volume of aerosol which contained N particles. Orig. art. has: 7 tables.

[WA-50; CBE No. 32][LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2 - 46 -

ACC NR: AP8015853 SOURCE CODE: UR/0016/68/000/004/0118/0121

AUTHOR: Klassovskiy, L. N.; Bibikova, V. A.

ORG: Central Asiatic Scientific Research Antiplague Institute, Alma-Ata (Sredneaziatskiy nauchno-issledovatel'skiy protivochumnyy institut)

TITLE: Aspects of the ecology of plague and pseudotuberculosis bacteria. Report IV. A characteristic of plague bacteria ensuring the possibility of its transmission

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 4, 1968, 118-121

TOPIC TAGS: plague, bacterial genetics, flea

ABSTRACT: The effectiveness of transmission of plague bacteria depends on the establishment of a gizzard block, in which multiplying bacteria clog the flea's gizzard, forcing it to regurgitate bacteria into a bite wound during blood-sucking. Study of the possible relationship between various virulence characteristics (capacity to produce the capsular antigen Fraction I, presence of virulence antigens, capacity to form pigment on synthetic medium with hemin and capacity to form a gizzard block) showed that the ability to form a block is related to only one virulence characteristic, the ability to form pigment (P+). *Xenopsylla cheopsis* fleas

Card 1/2 UDC: 576.851.45:576.895.775

ACC NR: AP8015853

were fed on fresh mouse tails filled with a mixture of blood and plague bacteria, allowed to feed repeatedly, and examined microscopically to determine the presence of a gizzard block. P+ variants able to react with hemin in the insect's digestive tract form dense clots which become firmly attached in the gizzard. P- variants don't react with hemin, forming a loose mass of cells in the gizzard easily disrupted by incoming streams of blood. Other characteristics of virulent plague bacilli, such as the tendency to rough colony forms, may be associated with the P+ characteristic in causing a gizzard block. Orig. art. has: 2 tables.

[WA-50; CBE No. 32] [JS]

SUB CODE: 06/ SUBM DATE: 29May67/ ORIG REF: 003/ OTH REF: 009

Card 2/2

ACC NR: AP8016729 SOURCE CODE: UR/9091/67/000/011/0128/0133

AUTHOR: Kovalenko, Ya. R. (Academician VASKhNIL)

ORG: none

TITLE: All-Union Institute of Experimental Veterinary Medicine

SOURCE: Vestnik sel'skokhozyaystvennoy nauki, no. 11, 1967, 128-133

TOPIC TAGS: animal disease, veterinary medicine, biologic research facility, equine encephalomyelitis, anthrax, foot and mouth disease, brucellosis

ABSTRACT: Extensive studies of anthrax, foot-and-mouth disease, burcellosis, infectious equine anemia, equine encephalomyelitis and diagnostic procedures and vaccines for these diseases are in progress at the All-Union Institute of Experimental Veterinary Medicine. Papers on foot-and-mouth virus and cell interaction and the isolation of its infectious RNA have been published by scientists of the Institute. Topics of other papers include listeriosis, African swine plague, viral enteritis, atrophic rhinitis of swine, fowl diseases, blood parasites, tickborne diseases, and tularemia. New carbamate compounds have been tested as acaricides, and the growth of tularemia agent in tissue culture is being

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ACC NR: AP8016729

studied. All aspects of animal physiology are studied in the extensive physiology department. Recently, investigation of phosphide- and mercury-containing rodenticides has yielded several compounds suitable for practical use. The institute also investigates the effects of poisonous chemicals in fodder. A large zoohygiene research program is part of this institute. Many monographs, books and handbooks are published by the institute each year. In the next five years, emphasis will be on expanding the practical and theoretic bases for the prevention and treatment of infectious and parasitic diseases; microbial and viral genetics; improvement of diagnostic methods; lowering the reactogenicity of vaccines; improving control of tuberculosis, pathogenic fungi, brucellosis, swine and fowl diseases, mycoplasmal diseases; and the effects of ionizing radiation on animals. Orig. art. has: 1 figure. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8016850 SOURCE CODE: UR/0346/68/000/004/0030/0032

AUTHOR: Kozlov, N. A. (Aspirant)

ORG: All-Union Institute of Experimental Veterinary Medicine (Vsesoyuznyy institut eksperimental'noy veterinarii)

TITLE: Changes in cattle liver affected with various forms of leucosis

SOURCE: Veterinariya, no. 4, 1968, 30-32

TOPIC TAGS: animal disease, leucosis, anatomy, liver

ABSTRACT: The characteristics of liver changes produced in various forms of cattle leucosis are described. Pathological changes were observed in 28 cattle, of which 22 were infected with lympholeucosis, 4 with myeloleucosis and 2 with hemocytoblastosis. Heterogeneous changes in tissues, enlargement of the liver and capsule formation were observed in lympholeucosis cases. Proliferating lymphoid cells were sometimes found in the capillaries. Myeloid leucosis was more severe, producing easily noticeable changes. Extensive polymorphism occurred among lymphocytes, and many cells in different stages of mitosis were found in the capillaries. Atrophy and necrosis of liver cells is characteristic of this form of the disease. In hemocytoblastosis, hemocytoblasts and other undifferentiated cells occur

Card 1/2 UDC: 619:616-006.446-091:636.22/.28

ACC NR: AP8016850

in the intracellular spaces. Sometimes pathological processes are confined to the blood vessel, and sometimes there is generalized tissue damage. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8016828 SOURCE CODE: UR/9091/67/000/005/0109/0111

AUTHOR: Krasnoshchekov, N. V.; Kuts, V. F.

ORG: Siberian Scientific Research Agricultural Institute (Sibirskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva)

TITLE: A device for taking soil samples

SOURCE: Vestnik sel'skokhozyaystvennoy nauki, no. 5, 1967, 109-111

TOPIC TAGS: agricultural machinery, soil

ABSTRACT: This article appears in Chemical Factors

Card 1/1 UDC: 631.3:631.473

ACC NR: AP8016130 SOURCE CODE: UR/0177/68/000/004/0052/0055

AUTHOR: Kremlev, G. I. (Lieutenant colonel, Medical service)

ORG: none

TITLE: Emergency prophylaxis of tetanus

SOURCE: Voyenno-meditsinskiy zhurnal, no. 4, 1968, 52-55

TOPIC TAGS: tetanus, tetanus toxin, tetanus vaccine, antibiotic therapeutics

ABSTRACT: A successful method of emergency tetanus treatment is the combination of revaccination with tetanus toxoid and injection of anitbiotics. These act quickly to lower the viability of the causative agent and neutralize the toxin already present. This treatment also comprises an effective booster against future infection. Experimental studies were made on rabbits, one group receiving toxoid and antibiotic separately and one group receiving the "emergency" mixture of combined ingredients. Also results with previously vaccinated and unvaccinated animals were compared. Other comparisons were made in animals suffering from burns, shock and gamma-irradiation. Emergency treatment was given 12 hr after infection

Card 1/2 UDC: 616.981.551.084

ACC NR: AP8016130

and the animals were observed for 20 da. The antibiotics tested were penicillin, bicillin, and streptomycin hydrochloride. Emergency treatment (one injection of anitbiotic with toxoid) of traumatized animals was more effective than other methods. Experiments with previously vaccinated animals showed that a booster plus antibiotics offered the best protection. Therefore, ampules containing the dry ingredients were prepared and tested. They contained bicillin-2, streptomycin and tetanus toxoid; they were effective and had no harmful side effects. Further tests were conducted on animals with low natural immunity levels who had received large doses of spores. These studies confirmed previous findings, and this method is recommended above serum-toxoid therapy, the previously most desirable method. It was also found effective against other wound infections and radiation and burn injuries. Orig. art. has: 3 tables.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT8015333 SOURCE CODE: UR/0000/65/000/000/0247/0256

AUTHOR: Krupina, A. P.

ORG: Institute of Epidemiology and Microbiology im. Paster, Leningrad (Institut epidemiologii i mikrobiologii)

TITLE: Experimental differentiation of pathogenic enterococci from saprophytic

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina", 1965, 247-256

TOPIC TAGS: enterococcus, serology, pathogen screening method, serologic test, diagnostic method

ABSTRACT: Enterococci are varied in their morphological, cultural, biochemical and serological properties. Dermonecrotic and hyaluronidase assays are suggested as tests of their pathogenicity. One sign of pathogenicity is the capacity of a culture to ferment mannose and/or coagulate plasma. Pathogenic strains were otherwise the same as saphrophytic. Unfortunately, mice were not suitable as experimental animals in these studies. Possible tests for everyday laboratory use are described.

Card 1/2 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015333

Investigations of food products showed that enterococci had similar survival characteristics as *E. coli* and could survive 30 days. The species composition of enterococci is as follows:

Table 1. Species Composition of Enterococci (acc. to Shermen)

Culture no.	Types of enterococci	Percent found
1	Str. faecalis	52,4
2	Str. durans	13,1
3	Str. liquefaciens	6,5
4	Str. zymogenes	5,7
5	Unclassifiable	22,3
	Total	100

The following tests were performed: 1) hemolytic activity; 2) mannose fermentation; 3) viability of cultures; 4) growth on gelatine; 5) fibrinolysin formation; 6) presence of hyaluronidase; 7) dermonecrotic properties. Orig. art. has: 22 tables and 1 figure. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT8016362 SOURCE CODE: Uk/3349/67/032/000/0C29/0042

AUTHOR: Krupina, A. P. (Candidate of biological sciences)

ORG: none

TITLE: Effect of the environment on the viability of enteropathogenic *E. Coli*

SOURCE: Leningrad. Institut epidemiologii i mikrobiologii. Trudy, v. 32, 1967. Voprosy etiologii i diagnostiki pishchevykh toksikoinfektsiy (Problems of etiology and diagnostics of food toxico-infections), 29-42

TOPIC TAGS: Escherichia coli, bacteria viability, planetary environment

ABSTRACT: Comparative studies of pathogenic and nonpathogenic *E. coli* resistance to the environment were made. Forty-six cultures of *E. coli*, including 23 cultures of serotypes O111:B4, O55:B5, O26.B6,9,145,561 and 23 cultures of saprophytic organisms, were investigated for response to salt concentration; hyaluronidase, fibrinolysin and lecithinase activity; heat sensitivity; resistance to chlorine; pH changes; freezing; and response to ultraviolet light. There were few differences between pathogenic and saphrophytic organisms in any of these respects except that

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ACC NR: AT8016362

fibrinolysin and lecithinase activity was more pronounced in the pathogenic cultures. Alcohol and carbohydrate fermentation was the same for both groups of cultures. Pathogenic cultures were slightly more resistant to high salt concentrations than were saprophytic. The maximum tolerable concentration for both groups was 17% NaCl. To confirm the viability potential of *E. coli* in food products, subcultures were incubated at pH 3.5—pH 12 at 37°C for 6 da. *E. coli* is viable over a wide pH range. In this experiment, 14 types of cultures grew at pH 3.5, all 23 at pH 4.5—9.7, and 3 pathogenic strains and 6 saphrophytic at 12.0. This confirmed the possibility of contamination of dairy and other products during processing. Heat resistance was determined in 15 strains of each group by maintaining them at 65°C for 30 min or at 80°C for 5 min. At 65°C almost half of the strains retained their viability, while at 80°C all died. The organisms were stored in semiliquid agar at -20°C for 196 da. There was no decrease in growth potential, but a sharp alteration in biochemical and agglutinative properties. Eight cultures of pathogenic and four saprophytic *E. coli* cultures were kept in sterile and nonsterile chlorinated water (Neva river) for one hr. The pathogenic organisms were more resistant to chlorination. Saprophytic cultures were more resistant to dessication. Comparative radiation resistance was tested in containers made of various materials. Complete absence of growth occurred after irradiation in glass, iron and sheeting, and both groups had about the

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ACC NR: AT8016362

same radiation resistance. The greatest variation in biochemical properties occurred during culture at pH 12, long storage at low temperatures, and in chlorinated water. The viability of both groups of organisms was determined in sterile and nonsterile samples of milk (human and cow), soil, and water. These organisms multiplied freely in the milk samples and in sterile water. Poor multiplication in river water is attributed to competition with resident microorganisms. In nonsterile soil these organisms could survive 4 months, although serotype O111 predominated after the first month. In sterile soil they survived longer. Examination of milk, food and cooking utensils in hospitals showed a contamination index of about 1%. Orig. art. has: 4 figures and 6 tables.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 030/ OTH REF: 006

Card 3/3

ACC NR: AT8016929 SOURCE CODE: UR/3351/67/010/000/0137/0143

AUTHOR: Marchenko, V. I.; Sovetova, G. P.; Pokidysheva, L. N.

ORG: Institute of Epidemiology and Microbiology im. N. F. Gamaleya, AMN SSSR (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Synergistic protective effect of interferon and anticellular antibody against virus infection in tissue culture

SOURCE: AMN SSSR. Institut poliomielita i virusnykh entsefalirov. Trudy, v. 10, 1967. Interferony i interferonogeny (Interferons and interferonogens), 137-143

TOPIC TAGS: biologic synergy, interferon, serology, antibody, influenza virus, adenovirus, Coxsackie virus, vaccinia virus, vesicular stomatitis virus, Chikungunya fever

ABSTRACT: Tissue cultures infected with Coxsackie virus B5, adenovirus 3, vaccinia virus strain WR, influenza virus strain PR-8, Chikungunya virus and vesicular stomatitis virus (strain Indiana) were treated with antigens prepared from rabbit serum. Such antiserum treatment was partially protective against cytopathic effects of viruses in tissue culture. Interferon was obtained from chick embryos infected with Chikungunya virus.

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ACC NR: AT8016929

Anticellular sera possessed species specificity, broad spectrum antiviral effects and anticellular effects in common with interferon. The combined effects of serum and interferon were synergistic in that cultures receiving both substances resisted virus infection better than cultures receiving either one alone. Orig. art. has: 4 tables.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AT8013215 SOURCE CODE: UR/3336/65/024/000/0162/0182

AUTHOR: Mulyarskaya, L. V.

ORG: none

TITLE: Trombiculid mites of Northeast Azerbaydzhan

SOURCE: AN AzerbSSR. Institut zoologii. Trudy, v. 24, 1965. Voprosy parazitologii (Problems of parasitology), 162-182

TOPIC TAGS: disease carrying insect, biocenosis, host parasite relationship

ABSTRACT: A three-year (1960—1963) study of the Trombiculid fauna parasitizing rodents and Insectivora in northeast Azerbaydzhan revealed 12 genera and 25 species, including three entirely new species (one *Trombicula* and two *Neotrombicula*). Results of these collections are shown in Table 1. In the barchan sands of the maritime subzone, no Trombiculid mites were found because of the unfavorable soil and climatic conditions, although hosts such as the red-tailed Libyan jird were present. Rodents living near human settlements in all zones were usually not infested. Trombiculid mites were not found in rodent nests as a rule. The population and species diversity of Trombiculid mites did not depend directly on the population and species diversity of the host.

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ACC NR: AT8013215

Table 1. Table of the zones and habitats, hosts and seasonal activity peaks of Trombiculid mites in northeast Azerbaydzhan

No.	Trombiculid species	List of hosts	Zones in which species were encountered	Preferred habitats	Seasons
1	2	3	4	5	6
1	[illegible] (rare)	Red-tailed Libyan jird (*Meriones libycus*)	Maritime subzone Lowland zone	Sands, tamarisk polynia and semidesert	Spring
2	[illegible] (rare)	Social vole [illegible]	Lowland zone	Edges of fields overgrown with forest	Fall
3	[illegible] (rare)	Red-tailed Libyan jird Common field-mouse (*Apodemus [illegible]*)	Maritime subzone of the lowland zone Lowland zone Foothill zone	Semidesert-type low forests	Spring Fall
4	[illegible] sp. (common)	Social vole Chinese striped hamster (*Cricetulus [illegible]*) Long-tailed white-toothed shrew Common vole (*Microtus [illegible]*)	Lowland zone Foothill, mountain and alpine zones	Cultivated fields, bushes, steppes Subalpine meadows	Spring Fall
5	[illegible] (rare)	Social vole Common field-mouse	Lowland zone Foothill zone	Thickets and weeds in steppes and between cultivated fields	Spring Fall
6	[illegible] (mass)	Red-tailed Libyan jird Social vole House mouse (*Mus [illegible]*) Common field-mouse Chinese striped hamster Common vole	Maritime subzone Lowland zone Mountain zone Alpine zone	Semidesert habitat, steppes, agricultural crops and bushes Subalpine meadows	Spring Summer Autumn Fall

Card 2/6

Table 1. (Cont.)

7	*Meriones tamariscinus* (common)	Norway rat (*Rattus norvegicus*) Common field-mouse Yellow necked field-mouse (*Apodemus flavicollis*)	Lowland zone	Light, high forests and forest glades	Spring Fall
8	*Leptotrombidium russicum* (common)	Red-tailed Libyan jird	Maritime subzone	Semidesert habitat and steppes	Winter Spring Summer Fall.
		Social vole House mouse	Lowland zone		
		Common field-mouse Shrub vole	Foothill zone	Bushes, forest, steppes	
		Long-tailed white-toothed shrew Satunin's shrew	Mountain zone	Light, high forests and forest glades	
9	*Leptotrombidium sp.* (mean)	Red-tailed Libyan jird	Maritime subzone	Semidesert habitat, virgin soil, forest glades, thickets, and steppes	Spring
		Social vole House mouse Forest dormouse (*Dryomys nitedula*)	Lowland zone		Summer Fall .
		Long-tailed white-toothed shrew Water shrew (*Neomys sp.*)	Foothill zone	Thickets	
		Common field-mouse Snow vole (*Microtus nivalis*) Common vole	Mountain zone	Steppes	
10	*Rhombomyscis lucida* (mean)	Social vole House mouse	Lowland zone	Virgin land, steppes and bushes	Spring Summer Fall
		Striped field-mouse (*Apodemus agrarius*) Common field-mouse	Foothill zone	Steppes, forest	
		Satunin's shrew Common vole	Mountain zone	Steppes	

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Table 1. (Cont.)

11	*Rhombomyscis asmaticus* (mean)	Red-tailed Libyan jird Social vole	Maritime subzone	Virgin soil	Spring Summer
		Forest dormouse House mouse	Lowland zone	Steppes, forest	Fall Winter
		Common field-mouse Striped field-mouse	Foothill zone	Steppes, young crops and gardens	
		Long-tailed white-toothed shrew Chinese striped hamster	Mountain zone	Pasture, bushes, forests	
		Common vole	Alpine zone	Steppes, meadows	
12	*Meriones libycus* (common)	Common vole Water vole (*Arvicola terrestris*)	Mountain zone Alpine zone	Pasture Steppes, subalpine meadows	Early fall
13	*Trombicula pulcher* (common)	Common field-mouse Social vole	Lowland zone Foothill zone	Bushes, forest Steppes	Spring Summer
		Common vole	Mountain zone	Gardens, steppes	Fall
14	*Trombicula sp.* (common)	Common field-mouse House mouse	Mountain zone	Thickets, forest glades	Summer
15	*Neotrombicula vulgaris* (mean)	Social vole House mouse	Lowland zone	Steppes, gardens	Spring Summer Fall Winter
		Common field-mouse Striped field-mouse			
		Forest dormouse Fat dormouse (*Glis glis*)	Foothill zone	Forest	
		Chinese striped hamster Long-tailed white-toothed shrew	Mountain zone	Young crops, steppes, forest, bushes	
		Satunin's shrew Yellow-necked field-mouse			
		Snow vole Common vole	[illegible] zone	Pasture, subalpine meadows	
16	*Neotrombicula talmiensis* (mean)	Same hosts as 15	Maritime subzone	Virgin land: around canals, fields, among bushes, forest	Winter
			Foothill zone	Steppes, forest	Spring
			Alpine zone	Steppes	Summer
			Mountain zone	Pasture, subalpine meadows	Fall

Card 4/6

Table 1. (Cont.)

17	*Neotrombicula autumnalis* (mass)	Red-tailed Libyan jird and the same hosts at 15	Maritime subzone Lowland, foothill, mountain and alpine zones	Virgin land; around canals and sands, bushes, forest, steppes, pasture and subalpine meadows	Winter Spring Summer Fall
18	*Neotrombicula vaulogeri* (common)	Social vole House mouse Striped field-mouse Chinese striped hamster Long-tailed white-toothed shrew Satunin's mouse Common field-mouse Water vole	Lowland zone Foothill zone Mountain zone Alpine zone	Bushes, forest Steppes, bushes, forest, gardens Steppes, forest Subalpine meadows	Winter Spring Summer Fall
19	*Neotrombicula napaloi* (common)	Common vole Water vole	Foothill and mountain zones Alpine zone	Forest Steppes Subalpine meadows	Spring Summer Fall
20	*Neotrombicula schuskini* (common)	Common field-mouse Common vole	Foothill and mountain zone Alpine zone	Forest Forest steppes Subalpine meadows	Spring Summer
21	*Neotrombicula traghardiana* (common)	Social vole Common field-mouse Common vole	Foothill zone Mountain zone Alpine zone	Steppes, gardens, forest, bushes Pasture, forest Pasture	Fall Spring Summer
22	*Neotrombicula sp. I* (mass)	Red-tailed Libyan jird Forest dormouse House mouse Common field-mouse Striped field-mouse Chinese striped hamster Social vole European hare (*Lepus europaeus*) Common vole Shrub vole Water vole	Maritime subzone Lowland zone Foothill zone Mountain zone Alpine zone	Virgin land areas Steppes, bushes, gardens Steppes, young crops, bushes, forest Steppes, bushes, forest Subalpine meadows	Winter Spring Summer Fall

Table 1. (Cont.)

23	*Neotrombicula sp. II* (rare)	Red-tailed Libyan jird Common vole	Maritime subzone Foothill zone	Loosely packed sands Young grain crops	Spring Summer
24	*Neotrombicula crimita* (mass)	Red-tailed Libyan jird Forest dormouse House mouse Common field-mouse Chinese-striped hamster Social vole Common vole	Maritime subzone Lowland zone Foothill zone Mountain zone Alpine zone	Virgin land around canals Steppes, bushes Steppes, forest Steppes, forest Steppes	Winter Spring Summer Fall
25	*Trombicula stammeri* (common)	Red-tailed Libyan jird Social vole Satunin's shrew Common vole	Maritime subzone Lowland zone Foothill zone Mountain zone Alpine zone	Virgin land around canals Steppes Steppes Steppes Steppes	Winter Spring Fall

The largest populations of Trombiculid mites were observed in the lowland zone, in forest habitats and near bushes. Orig. art. has: 6 tables. [WA-50; CBE No. 32] [JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 013

ACC NR: AP8016822 SOURCE CODE: UR/9063/68/002/002/0128/0133

AUTHOR: Nelen, Ye. S.

ORG: Agricultural Institute, Grodno (Sel'skokhozyaystvennyy institut)

TITLE: Plant fungus diseases new to the Soviet Union

SOURCE: Mikologiya i fitopatologiya, v. 2, no. 2, 1968, 128-133

TOPIC TAGS: plant fungus, plant disease, soybean, agriculture crop

ABSTRACT: *Colleotrichum glycines, Verticillium foexii, Phyllosticta helianthi, Macrosporium carotae, Macrosporium porri* and *Stemphylium solani* are destructive parasites of grain and vegetables in the Maritime and Kabarovsk provinces and the Amur, Sakhalin and Magadan regions. Especially destructive are *Colleotrichum glycines* and *Verticillium foexii*, which parasitize soybeans. Short descriptions of the biology and hosts of the other fungi mentioned above are given. Orig. art. has: 6 figures.
[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 10Oct66/ ORIG REF: 004

Card 1/1 UDC: 632.4:(47)+(57)

ACC NR: AP8016851 SOURCE CODE: UR/0346/68/000/004/0032/0034

AUTHOR: Nuykin, Ya.V. (Veterinary doctor)

ORG: Moscow Veterinary Academy (Moskovskaya veterinarnaya akademiya)

TITLE: The distribution of animal leptospirosis in Moscow oblast

SOURCE: Veterinariya, no. 4, 1968, 32-34

TOPIC TAGS: leptospirosis, soil chemistry

ABSTRACT: The geographical distribution of animal leptospirosis in Moscow oblast is inversely related to the degree of soil acidity in pastureland and haying regions: with increase in the percentage of pastureland with acid soils, the number of unsafe locations and sick animals decreases sharply. In areas with 75% acid-soil pastureland, no leptospirosis was recorded. A map of the relationship between soil acidity and leptospirosis is shown in Fig. 1. Soil with a neutral or weakly alkaline pH promotes the spread of leptospirosis infection among animals. In rayons and farms with this type of soil, antileptospirosis prophylactic treatment of all animals should be conducted annually two weeks before animals are put to pasture. The method of cartographic analysis is recommended for study of the relationship between various

Card 1/2 UDC: 619:616.986.7-036.2(470.311)

ACC NR: AP8016851

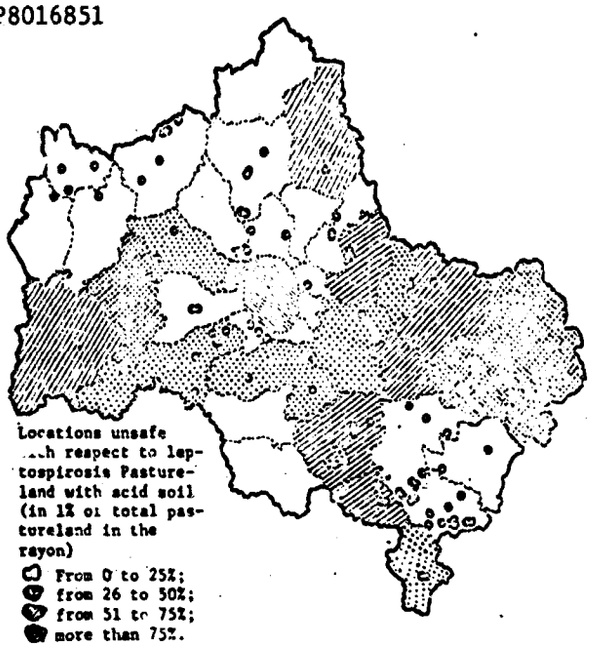


Fig. 1. Map of the geographical distribution of animal leptospirosis in Moscow oblast with a cartogram of acid-soil pastureland by rayons (1960--1964)

geographical factors and the spread of naturally focal diseases. Orig. art. has: 2 figures and 2 tables. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8016748 SOURCE CODE: UR/9091/67/000/012/0138/0141

AUTHOR: Ostapenko, K. (Candidate of veterinary sciences)

ORG: none

TITLE: Problems of zoohygiene and veterinary sanitation

SOURCE: Vestnik sel'skokhozyaystvennoy nauki, no. 12, 1967, 138-141

TOPIC TAGS: veterinary medicine, veterinary vaccine, animal disease, biologic conference, veterinary conference

ABSTRACT: A meeting on zoohygiene problems was held in 1967 and attracted 400 participants from all over the Soviet Union. General veterinary sanitation problems were discussed in papers, and the need for improvement in the sanitation of kolkhozes and sovkhozes in western Siberia was stressed. The elimination of brucellosis in L'vov and Sumskaya oblasts was reported, but brucellosis still remains a problem in other areas. Two new disinfectant preparations were recommended for dairy and chicken farms. Other agricultural equipment and chemicals were also discussed. Helminth control was another principal topic. The section on agricultural microbiology, conducted by several institutes, dealt with the synthesis, testing and use of new rodenticides. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 1/1 UDC: 628.619

ACC NR: AP8016839 SOURCE CODE: UR/0402/68/000/002/0209/0212

AUTHOR: Podchernyayeva, R. Ya.; Sokolov, M. I.; Ratushkina, L. S.

ORG: Institute of Virology im. D. I. Ivanovskiy, AMN SSSR, Moscow (Institut virusologii AMN SSSR)

TITLE: Further studies on intraspecies hybridization of influenza A viruses

SOURCE: Voprosy virusologii, no. 2, 1968, 209-212

TOPIC TAGS: influenza, viral genetics

ABSTRACT: Hybrid variants were obtained by recombination of influenza A1 and A2 viruses. Hybridization of the inhibitor-resistant WSN strain with the inhibitor-sensitive FM1 strain is shown schematically in Table 1. Study of the possibility of transfer of plaque-forming ability between WSN and FM1 strains during cultivation on chick fibroblasts and pig kidney cells was inconclusive, as microplaques were formed on pig kidney cells, and smaller-than-normal plaques formed only on chick embryo cultures with added DEAE. Hybridization experiments with FMI as the inactivated strain and WSN as the live strain

Card 1/4 UDC: 576.858.75(A).095.58

Table 1. Properties of initial strains and hybrids in recombination experiments WSN x FM1

Strains		Antigen	Relationship to normal horse serum inhibitors	Resistance of hemagglutinins to heating at 56°C	Virulence on intracerebral inoculation
Initial	WSN	A	1^-	5 min	4,0
	FM1	A1	1^+	2 hr	—
Hybrids	Γ_1	A1	1^-	1½ hr	1,0
	Γ_2	A1	1^-	2 hr	1,0

Designations: 1^- resistant to inhibitors of normal horse serum; 1^+ sensitive to inhibitors of normal horse serum; — nonpathogenic.

are shown in Table 2. An unstable polyantigenic variant (AA1) was also obtained during FM1 x WSN recombination, which neutralized both antisera in the hemagglutination inhibition test in approximately the same titers.

Table 2. Properties of initial strains and hybrids in recombination experiments FM1 x WSN

Strains	Antigen	Relationship to normal horse serum inhibitors	Resistance to hemagglutinins to heating at 56°C	Virulence on intracerebral inoculation	Plaque formation on chick fibroblasts
Initial					
FM1	A	1^-	2 hr	—	—
WSN	A	1^-	5 min	4,0	+
Hybrids					
Γ_1	A	1^-	5 min	3,0	+
Γ_2	A	1^+	5 min	2,4	+
Γ_3	A	1^-	5 min	1,2	—
Γ_4	AA1	1^+	5 min	1,8	+

Designations: 1^- resistant to inhibitors of normal horse serum; 1^+ sensitive to inhibitors of normal horse serum; — nonpathogenic.

ACC NR: AP8016839

Hybrids with less neurovirulence than the initial WSN strain were also obtained in this series. Orig. art. has: 1 figure and 2 tables.
[WA-50; CBE No. 32] [JS]

SUB CODE: 06/ SUBM DATE: 31May67/ ORIG REF: 006/ OTH REF: 002

Card 4/4

ACC NR: AP8016353 SOURCE CODE: UR/0473/68/004/004/0105/0108

AUTHOR: Pokrovskiy, V.N.

ORG: Institute of Epidemiology and Microbiology im. N.F. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Mutations in different loci of the bacterial chromosome simultaneously induced by 5-bromouracil

SOURCE: Genetika, v. 4, no. 4, 1968, 105-108

TOPIC TAGS: bacterial genetics, mutagen, bacterial mutation

ABSTRACT: Preliminary studies on double mutants of *S. typhimurium* LT2 indicate that 5-bromouracil can simultaneously induce mutations in different sections of the bacterial chromosome, in this case inducing streptomycin resistance and auxotrophy at the same time. The mutants obtained had different nutritional requirements. *S. typhimurium* cultures were incubated 24 hr with 300 µg/ml of 5-bromouracil and cultured for 18—20 hr to induce mutations. Cross transduction experiments confirmed the placement of mutations on different loci of the bacterial chromosome, since the acquisition by recombinants of the ability to synthesize various amino acids necessary for growth was not accompanied by loss of streptomycin resistance. Orig. art. has: 3 tables.
[WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: 18Jan67/ ORIG REF: 003/ OTH REF: 003

Card 1/1 UDC: 575.243

ACC NR: AP8016300 SOURCE CODE: UR/0476/67/046/004/0753/0759

AUTHOR: Pristavko, V.P.

ORG: Ukrainian Scientific Research Institute of Plant Protection, Kiev (Ukrainskiy nauchno-issledovatel'skiy institut zashchity rasteniy)

TITLE: The use of entomopathogenic bacteria and insecticides to control insect pests

SOURCE: Entomologicheskoye obozreniye, v. 46, no. 4, 1967, 753-759

TOPIC TAGS: biologic pest control, insecticide application

ABSTRACT: The synergistic effect of entobacterin and sevin with respect to tortrix moth caterpillars is shown in Table 1. Experiments showed that fourth-instar tortrix moth caterpillars are only slightly susceptible to entobacterin-3, containing mostly spores of *Bacillus cereus* var. gal[illegible]riae, on oral administration. The average lethal dose of bacteria decreased 22-fold in combination with sublethal amounts of sevin (about 1/60th of the average lethal dose). Insects were given 0.0025—0.005 ml of suspension with a micro-injector. Similar results were obtained with combinations of thuricide and sublethal doses of DDT with respect to fifth-instar caterpillars. In these tests the

Card 1/2 UDC: 632.937.16+632.934.3

ACC NR: AP8016300

Table 1. The effect of entobacterin and sevin on caterpillars of the fruit-tree tortrix moth (*Cacoecia crataegana*) as determined by tests conducted in May—June 1964.

Dose		No. of caterpillars	No. of dead caterpillars on the 5th day	Death (in %)	LD_{50} of bacteria
entobacterin (number of spores)	sevin (grams)				
10^6	0	20	14	70	5.5×10^5
10^5	0	20	6	30	
10^4	0	20	3	15	
0	5×10^{-7}	20	1	5	
10^6	5×10^{-7}	20	19	95	2.5×10^5
10^5	5×10^{-7}	20	15	75	
10^4	5×10^{-7}	20	8	40	
0	0	20	0	0	

LD_{50} of thuricide (derived from *B. thuringiensis* Berliner) decreased 12-fold in combination with DDT [dose not given]. It is still not clear whether the resistance of insects to bacteria decreases due to the effect of the insecticide, or vice versa, but the method of combining entomopathogenic bacteria which sublethal doses of insecticides is considered promising. Orig. art. has: 2 tables. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 012

Card 2/2

ACC NR: AP8015635 SOURCE CODE: UR/0297/68/013/004/0351/0355

AUTHOR: Prokhorova, I.I.

ORG: Laboratory of Pharmacology /Head—Prof. I.A. Storozhev/, All-Union Scientific Research Institute of Antibiotics, Moscow (Laboratoriya farmakologii Vsesoyuznogo nauchno issledovatel'skogo instituta antibiotikov)

TITLE: The absorbability of kanamycin during inhalation of the aerosol

SOURCE: Antibiotiki, v. 13, no. 4, 1968, 351-355

TOPIC TAGS: antibiotic aerosol, kanamycin

ABSTRACT: Inhalation of kanamycin aerosol ensured prolonged high antibiotic concentrations in animal lungs, while concentrations in blood and kidneys remained low, decreasing the hazard of kanamycin's toxic effect on the ear and kidneys. Concentrations of kanamycin in blood, lungs and kidneys of experimental animals are shown in Table 1. Since the antibiotic accumulates directly in the focus of infection, kanamycin aerosols should prove useful in purulent and catarrhal lung diseases

Card 1/3 UDC: 615.779.931(Canamycinum)-014.171-033

ACC NR AP8015635

Table 1. Concentration ($M \pm m$) of kanamycin in blood serum (in μg/ml), lungs and kidneys (in μ/g) of white mice after single and repeated innalations of antibiotic aerosol in a dose of 15 mg/kg.

Number of inhalations	Time of sample-taking and investigated material																	
	hr			hrs			days			day			days			days		
	blood serum	lungs	kidneys	blood serum	lungs	kidneys	blood serum	lungs	kidneys	blood serum	lungs	kidneys	blood serum	lungs	kidneys	blood serum	lungs	kidneys
1	1,56± ±0,17	19,91± ±12,25	1,53± ±0,45	0	9,21± ±0,78	0,59± ±0,13	0	2,02± ±0,11	<0,1	0	<0,1	0						
5	1,12± ±0,11	102,5± ±20,0	1,36± 0,8±	0	33,0± ±3,2	3,9± ±0,31	0											
10	1,29± ±0,10	109,8± ±17,5	8,67± 1,09	0	49,9± ±6,7	3,82± ±0,32	0	52± ±2,73	0,75± ±0,65	0	41,72± ±4,63	0	0	20,45± ±6,41	0	0	7,06± ±0,78	0

end for tuberculosis. The exposure time necessary to give animals an antibiotic dose (15 mg/kg) equal to the average daily intramuscular dose was calculated according to formula 1

$$X_p = \frac{0.5 \cdot C \cdot T}{V \cdot t}, \quad T = \frac{X_p \cdot V \cdot t}{0.5 \cdot C},$$

in which T - is the time necessary to give the animal the required

Card 2/3

ACC NR: AP8015635

antibiotic dose; V_p - is the required antibiotic dose; C - is the antibiotic concentration (in units or mg) in 1 ml of inhaled solution (50 mg/ml); V - is the amount of air passing through the atomizer in 1 min (in liters—10 l/min); and t - is the time necessary to transform 1 ml of the given antibiotic solution into aerosol (6 min). A Soviet kanamycin disulfate with activity of 640 µg/mg was used in a PAI-2 aerosol apparatus. Orig. art. has: 2 tables. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: 27Jun67/ ORIG REF: 012/ OTH REF: 014

Card 3/3

ACC NR: AP8016561 SOURCE CODE: UR/9091/68/000/001/0034/0039

AUTHOR: Semenko, N. I. (Candidate of agricultural sciences)

ORG: Institute of Agriculture and Livestock Breeding of the Western UkrSSR (Institut zemledeliya i zhivotnovodstva zapadnykh rayonov UkrSSR)

TITLE: Susceptibility of specimens from the world wheat collection at the All-Union Institute of plant protection to stem rust

SOURCE: Vestnik sel'skokhozyaystvennoy nauki, no. 1, 1968, 34-39

TOPIC TAGS: wheat, stem rust, plant disease, disease resistance, plant physiology

ABSTRACT: The rust resistance of 1067 strains of wheat from the world wheat collection was determined. Under western Ukraine conditions, several soft and durum strains almost completely resistant to stem rust were discovered. 1960-1965 were good growing years with similar climate conditions, and results are analyzed accordingly, since virulence depends somewhat on environment. About 1.5% of strains were completely rust-resistant, and 30% were susceptible to only one or two kinds of rust. In the western Ukraine a group of biotypes is formed which can infect many strains imported from abroad. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 016

Card 1/1 UDC: 633.11+582.285.2

ACC NR: AP8017235 SOURCE CODE: UR/0290/67/000/003/0084/0092

AUTHOR: Sharapov, V. M.

ORG: Biological Institute, Siberian Branch AN SSSR, Novosibirsk (Biologicheskiy institut Sibirskogo otdeleniya AN SSSR)

TITLE: Natural foci in various mycoses

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya biologo-meditsinskikh nauk, no. 3, 1967, 84-92

TOPIC TAGS: epidemiology, epizootiology, animal disease therapeutics, disease vector, fungus disease

ABSTRACT: The distribution of pathogenic dermatophytes among small mammals was investigated. The goal in these mycological examinations was to rectify lack of mycology studies in the small mammal complex, to clarify certain features of fungus circulation between them and man and to determine the effects of topography on disease foci. The water rat is a principal reservoir *trichophyton* in Western Siberia. The site of the studies was a 1,620,000 ha tract of forest-steppe in Novosibirsk oblast. Results of the survey are shown in Table 1. The most susceptible single

Card 1/4 UDC: 616-002.8

ACC NR: AP8017235

Table 1. Results of mycological studies of small mammals

Species	No. of specimens location of catch	Isolated		
		Trich. gypseum	*Trich. terrestre*	*Micr. cookei*
Fam. Cricetidae				
Water vole	2242, ABKO	56	33	47
Root vole	143, BK	4	2	2
Ondatra	131, K	2	—	3
Common vole	6, K	—	1	—
Northern redbacked vole	57, BK	1	2	2
Steppe lemming	19, K	—	—	—
Striped hairy footed hamster	29, K	—	—	—
Common hamster	196, BK	—	—	—
Fam. Mudidae				
House mouse	28, BK	1	1	—
Field mouse	10, BK	1	—	—
Harvest mouse	35, KO	—	—	—
Gray rat	81, BK	—	—	—
Fam. Sciuridae				
Long-tailed Siberian suslik	400, A	—	1	—
Red-cheeked suslik	1260, A	—	2	—

Card 2/4

Table 1. (Cont.)

Fam. Talpidae Altai mole	736, A	—	5	—
Fam. Soricidae Common shrew Lesser shrew	237, BK 14, K	1 —	— —	1 —
Total	5624	66	47	55

Legend: 26 specimens of 9 species are not included in the table since no fungi were detected in them: narrow skulled vole, striped hamster, steppe mouse, forest mouse, arctic vole, water shrew, ermine, weasel, and Siberian polecat
A - Altai kray, B - Baraba, K - Kulunda, O - Ob river floodplain

group is the fam. Cricetidae, which includes the water rat. The disease is seasonal, occurring in 10% of animals studied in the winter and spring and in 1—2% in the summer, reflecting changes in intraspecies contact. This study encompassed nearly all small mammal species normally occurring

in this area. Nearly 85 strains of keratophils were isolated. An extensive analysis of literature data on clinical dynamics of the infection in man and possible mechanisms of resistance in animals of varying susceptibility follows. Orig. art. has: 1 table. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 27Mar67/ ORIG REF: 024/ OTH REF: 020

ACC NR: AP8015871 SOURCE CODE: UR/0404/68/000/002/0086/0087

AUTHOR: Shigayeva, M. Kh.; Akhmatullina, N. B.

ORG: none

TITLE: All-Union Conference on Chemical Mutagenesis [Held in Moscow from 6 to 12 February 1967]

SOURCE: AN KazSSR. Izvestiya. Seriya biologicheskaya no. 2, 1968, 86-87

TOPIC TAGS: biologic conference, chemical mutagen, biologic mutation, DNA, molecular biology, arbovirus, tickborne encephalitis

ABSTRACT: Over 115 reports on the effects of chemical mutagens and the selection of mutants were heard at this conference. I. A. Rapoport spoke on the specific effects of certain classes of mutagens, mechanisms of spontaneous and induced mutations, and allelomorphism in the mutagenic spectrum. V. A. Kovarskiy and E. F. Kazantsev presented quantum mechanics calculation of nitrogenous base - supermutagen complex energy levels. A. E. Bednyak discussed chromatography and spectrophotometry of the alkylation products of nucleic acids treated with nitrosoalkylurea. Other authors discussed reaction mechanisms and specific properties of other genetic-alkylating agent systems. Forty reports on the specific effects of mutagens were given. Mutagens are characterized by the following levels

Card 1/2 UDC: 576.852.1

ACC NR: AP8015871

of specificity: 1) intragenic, 2) intergenic, in which the mutagen increases the mutability of one or several genes, and 3) intraspecies and interracial. Many reports were on the comparison of mutagen effects in plants, microorganisms and insects. According to L. M. Filippova, no ethyleneimine derivitives were as effective as unsubstituted ethyleneimine itself. A report of the effects of mutagens on the TBE complex of viruses was read by G. D. Zasukhina. In one experiment, treatment with N-nitroso-methylurea yielded 100% apathogenic mutants of the TBE virus. N. N. Zoz spoke on mutant selection, primarily of plants.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8016826 SOURCE CODE: UR/9063/68/002/002/0148/0149

AUTHOR: Sinadskiy, Yu. V.

ORG: Coordinating Council for Scientific Activity of the Academies of Science of the Union Republics, AN SSSR, Moscow (Sovet po koordinatsii naychnoy deytel'nosti akademiy nayk coyuznykh respublik AN SSSR)

TITLE: Pathogenic microflora of trees and shrubs in desert zones of Central Asia and Kazakhstan

SOURCE: Mikologiya i fitopatologiya. v. 2, 1968, 148-149

TOPIC TAGS: plant fungus, plant disease, fruit tree, mycology, agricultural economics

ABSTRACT: Serious plant parasites of desert regions multiply primarily in the spring; a few cause most damage in the fall. The smallest number of fungi occur in salt deserts and tugaic forests. Hymenomycetes and related species are most typical for this area. The most significant hymenomycetes are the genera *Inonotus*, *Phellinus* and *Fomes*, and the most important rusts are *Puccinia* and *Melamospora*. Among the thermophilic mesophytes are *Phyllactinia*, *Uncinula* and *Septoria*. Most data on desert and

Card 1/2 UDC: 632.4:581.526.534:(574)+(575)

ACC NR: AP8016826

tugaic species is based on studies in Amu-Dar'ya, Syr-Dar'ya, Ural, Volga and Kuban regions. The most diversified tree parasites were of the genus *Cytospora*. [WA-50; CBE No. 32] [ER]

SUB CODE: 06/ SUBM DATE: 25Sep67/ ORIG REF: 002

Card 2/2

ACC NR: AP8016305 SOURCE CODE: UR/0476/67/046/004/0835/0844

AUTHOR: Sinel'shchikov, V.A.

ORG: Pavlodar Oblast Sanitation and Epidemiological Station, Pavlodar (Pavlodarskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya)

TITLE: The fauna of Gamasid mites (Parasitiformes, Gamasoidea) in Pavlodar oblast, Kazakh SSR

SOURCE: Entomologicheskoye obozreniye, v. 46, no. 4, 1967, 835-844

TOPIC TAGS: tick, disease carrying insect, insect ecology, animal vector research

ABSTRACT: Results of collection of 7400 Gamasid mites from various hosts in Pavlodar oblast in 1955--1960 are shown in Table 1. Most of the above species are widespread in the Irtysh floodplain. In Pavlodar oblast there are seven possible carriers of tularemia, three of lymphocytic

Card 1/3 UDC: 595.422(574.244)

ACC NR: AP8016305

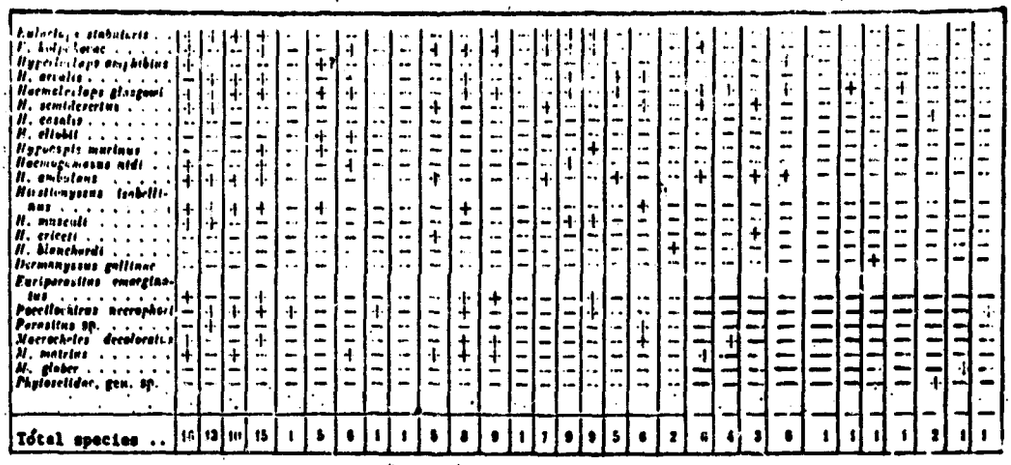
Table 1. The species composition of Gamasid mites and their host distribution in Pavlodar oblast, Kazakh SSR, according to collections in 1955—1960.

Mite species	Voles							Ham-sters	Striped hamsters	Mice					Shrews		Birds				
	Arvicola terrestris	*Microtus oeconomus*	*Microtus gregalis*	*Clethrionomys rutilis*	*Microtus arvalis*	Steppe lemming (*Lagurus Lagurus*)	Nest of the steppe lemming	Muskrat (*Ondatra zibethica*)	*Cricetus cricetus*	*Cricetus eversmanni*	*Cricetulus barabensis*	*Phodopus sungorus*	*Cricetulus migratorius*	*Mus musculus*	*Apodemus sylvaticus*	*Sicista subtilis*	*Rattus norvegicus*	Bobak (*Marmota bobac*)	Red-cheeked suslik (*Citellus erythrogenus*)	Southern birch mouse (*Sicista subtilis*)	Great jerboa (*Allactaga jaculus*)	*Sorex araneus*	*Sorex minutus*	Great tit (*Parus major*)	Domestic chickens	Nests: Sand martin (*Riparia riparia*)	Nests: Tree sparrow (*Passer montanus*)	Rhinocerus beetle (*Oryctes nasicornis*)	People
Larvae	+																												
Nymphs																													
Adult ticks																													

GRAPHIC NOT REPRODUCIBLE

ACC NR: AP8016305

Table 1. (Cont.)



Total species ..	16	12	10	15	1	5	6	1	1	5	8	9	1	7	9	9	5	6	2	6	4	3	8	1	1	1	1	2	1	1	

choriomeningitis and one of infectious nephroso-nephritis. Orig. art. has: 2 t[illegible] [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 021

Card 3/3

ACC NR: AP8016352 SOURCE CODE: UR/0473/68/004/004/0099/0104

AUTHOR: Skavronskaya, A. G.; Pokrovskiy, V. N.; Likhoded, L. Ya.; Gol'dina, L. R.

ORG: Institute of Epidemiology and Microbiology im. N. F. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: Change in the mutagenic effect of ultraviolet rays with the inclusion of 5-bromouracil in bacterial DNA

SOURCE: Genetika, v. 4, no. 4, 1968, 99-104

TOPIC TAGS: mutagen, bacteria DNA, mutagen effect, radiation genetic biologic effect

ABSTRACT: Study of induction of prototrophy in a leucine-dependent mutant of *Salmonella typhimurium* showed that inclusion of 5-bromouracil into bacterial DNA increased sensitivity to both the mutagenic and lethal effects of ultraviolet radiation. The mutagenic effect of UV rays on bacteria containing 5-bromouracil was more pronounced than the lethal effect. The UV source was a BUF-15 lamp. Inclusion of 5-bromouracil in bacterial DNA increased the lethal effect of UV radiation proportional to the UV dose. Both the lethal and mutagenic effects of UV radiation on bacteria

Card 1/2 UDC: 575.24

ACC NR: AP8016352

containing 5-bromouracil presumably were intensified because premutational changes and lethal changes were not repaired (although other theories have been suggested). Increase in the mutagenic effect of UV light may also be associated with dehalogenation of 5-bromouracil under the influence of UV irradiation, leading to replacement of a pair of DNA bases. Orig. art. has: 3 figures and 1 table. [WA-50; CBE No. 32] [JS]

SUB CODE: 06/ SUBM DATE: 19Jan67/ ORIG REF: 004/ OTH REF: 012

Card 2/2

ACC NR: AP8016840 SOURCE CODE: UR/0402/68/000/002/0224/0233

AUTHOR: Slepushkin, A. N.; Sokolov, M. I.; Porubel', L. A.; Kolchurina, A. A.; Agafonova, L. M.; Aleksandrova, G. I.; Krasnova, V. G.; Starovoytova, L. P.; Vasil'yeva, I. N.; Smirnova, L. B.; Geft, R. A.; Chudnova, A. V.; Shal'nov, M. I.

ORG: Institute of Virology im. D. I. Ivanovskiy, AMN SSSR (Institut virusologii AMN SSSR); Moscow Scientific Research Institute of Viral Preparations, Ministry of Public Health, SSSR (Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov Ministerstva zdravookhraneniya SSSR); Control Institute of Medical Biological Preparations im. L. A. Tarasevich (Kontrol'nyy institut meditsinskikh biologicheskikh preparatov); Leningrad Institute of Vaccines and Sera (Leningradskiy institut vaktsyn i syvorotok); Institute of Experimental Medicine, AMN SSSR (Institut eksperimental'noy meditsiny AMN SSSR); Dnepropetrovsk Plant of Bacteriological Preparations (Dnepropetrovskiy zavod bakteriologicheskikh preparatov)

TITLE: Results of controlled observations of influenza vaccine virus strain selection

SOURCE: Voprosy virusologii, no. 2, 1968, 224-233

TOPIC TAGS: influenza vaccine, influenza virus, live vaccine, vaccine production, viral disease vaccine

Card 1/2 UDC: 615.371:576.858.75]-012-07

ACC NR: AP8016840

ABSTRACT: Five institutes of the Soviet Union participated in a coded experiment directed by the Ministry of Public Health for the selection of vaccine strains for live influenza vaccine. The experiment showed that selection of strains in a controlled coded experiment conducted in widely separated facilities is objective and valid. The A2/Moscow 21/65 strain was finally selected for vaccine production. The strain had low reactogenicity and could be reisolated from 55% of persons vaccinated. It produced a four-fold rise in antibody titer in 55.3% of the persons vaccinated. Orig. art. has: 5 tables. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 17Aug66/ ORIG REF: 004

Card 2/2

ACC NR: AP8014535 SOURCE CODE: UR/0433/68/000/003/0042/0043

AUTHOR: Stepanov, K.M. (Professor; Doctor of biological sciences)

ORG: VNIIF

TITLE: Predicting epiphytotics of grain rust

SOURCE: Zashchita rasteniy, no. 3, 1968, 42-43

TOPIC TAGS: plant fungus, rust fungus, winter wheat, insecticide application

ABSTRACT: To predict the outbreak of rust epiphytotics in various parts of the USSR, the first step is periodic checking of infected plants to indicate the need for development of new resistant varieties and to signal a new outbreak of a virulent rust strain. Self-seeding (due to improper post-harvest treatment of fields, or other causes) should be avoided, since it may promote infection with brown rust of wheat or rye, barley stunt, and yellow rust. Barberry and buckthorn, important intermediate hosts for the agents of stem and crown rust, threaten nearby grain crops with frequent rust epiphytotics unless they are eliminated. Seasonal prediction can be successfully used to predict the severity of a forthcoming epiphytotic and indicate specific prophylactic

Card 1/2 UDC: 632.4:582.285.2

ACC NR: AP8014535

measures, such as early spring top dressing with phosphorus and potassium against a threatened outbreak of brown rust of winter wheat. Where there is no barberry, a rust outbreak is usually caused by airborne uredospores from southern regions. The number of uredospores found on fields in the early vegetation period is a good index of the degree of damage from stem rust. Automatic spore traps or glass smeared with vaseline (mounted on weathervanes) are used to determine the numbers of spores in the air. A method of prediction based on temperature and precipitation of the preceding winter, fall and preceding vegetation period was successfully applied to an epiphytotic of brown rust of winter wheat in Kuban. Long range prediction of this type was also developed for brown rust of winter wheat in the Northern Caucasus and in the Crimea, for stem rust of spring wheat in Primor'ye, for crown rust of oats in the Baltic and for yellow rust in Kirghizia. This type of prediction is very reliable, but must be adjusted to changes in grain varieties and climatic variations. Zineb is the most effective fungicide against grain rust. When the day of initial infection has been established by the number of uredospores in the air and by favorable weather conditions, fungicide should be sprayed at the end of the first fungal generation (before the appearance of rust), and again before the second and third generations. Three applications of zineb in the indicated periods are effective against a threatened outbreak of virulent rust. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8016203 SOURCE CODE: UR/0218/68/033/002/0234/0240

AUTHOR: Tret'yak, T. M.

ORG: Laboratory of Microbiology, Kazan State University im. V. I. Ul'yanov-Lenin (Laboratoriya mikrobiologii Kazanskogo gosudarstvennogo universiteta)

TITLE: Isolation, purification and study of the properties of DNAase from Micrococcus, pyogenes, var, aureus. Strain 42E

SOURCE: Biokhimiya, v. 33, no. 2, 1968, 234-240

TOPIC TAGS: DNAase, micrococcus, bacteriology, enzymology, enzymatic activity

ABSTRACT: Data on DNAase, RNAase and phophomonoesterase activity of the nuclease complex of *Micrococcus pyogenes, var. aureus*, Strain 42E, which had been isolated from a stock culture of *Micrococcus pyogenes*, and their reactions with nucleic acids were investigated. Ion exchange chromatography revealed two principal components of the enzyme preparation. DNAase yielded a sharp peak, and the other peak indicated the residual protein fraction. The protein fraction was of complex composition and contained highly active RNAase. Phosphomonoesterase activity occurred in

Card 1/2 UDC: 577.150.2

ACC NR: AP8016203

both fractions. Pathogenic *Micrococci* display strong phosphodiesterase activity. Further purification of the protein fraction occurred on a Sephadex A25 column. Further purification increased all enzyme activity hundreds of times. Purified DNAase and RNAase were obtained from the nuclease fraction and were proven specific for DNA and RNA. Hydrolysis fractions obtained with DNAase showed the enzyme's specificity for the A-T bond. Orig. art. has: 2 tables and 4 figures.

[W..5; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 10Apr67/ ORIG REF: 003/ OTH REF: 019

Card 2/2

ACC NR: AP8016553 SOURCE CODE: UR/0394/68/006/005/0030/0031

AUTHOR: Tsymbal, M. M.; Filippova, N. I.; Burmistrov, S. I.; Titov, Ye. A.; Seraya, V. I.

ORG: VNII of Corn (VNII kukuruzy); Dnepropetrovsk Chemical and Technological Institute (Dnepropetrovskiy khimiko-tekhnologicheskiy institut)

TITLE: Antismut activity of some chemical compounds

SOURCE: Khimiya v sel'skom khozyaystve, v. 6, no. 5, 1968, 30-31

TOPIC TAGS: aromatic sulfur compound, fungicide, agricultural crop

ABSTRACT: This article appears in Chemical Factors

Card 1/1

ACC NR: AP8016854 SOURCE CODE: UR/0346/68/000/004/0037/0038

AUTHOR: Ulendeyev, A. I. (Docent); Stepochkin, A. P. (Veterinary doctor of training and experimental farm)

ORG: Ul'yanovsk Agricultural Institute (Ul'yanovskiy sel'skokhozyaystvennyy institut)

TITLE: Prophylactic inoculations against swine plague, swine erysipelas and leptospirosis

SOURCE: Veterinariya, no. 4, 1968, 37-38

TOPIC TAGS: swine erysipelas virus, swine plague, leptospirosis

ABSTRACT: Proper use of a prophylactic inoculation program eliminated swine plague, swine erysipelas, leptospirosis and paratyphoid on an Ul'yanovsk experimental pig farm which had been unsafe for the latter three diseases and was threatened in 1964 with an outbreak of swine plague. The program has been in successful operation for three years. Pigs were inoculated against swine plague with dry avirulent vaccine at 10 days of age, with revaccinations at 30 days and 105 days (2 ml of vaccine diluted 1:50 for the first inoculation and 2 ml at 1:100 subsequently). All 60-day old pigs were given 0.3 ml of erysipelas vaccine

Card 1/2 UDC: 619.[616.982.17+616.986.7+616.988.75]-085.37:634.4

ACC NR: AP801654

followed by a revaccination with the same dose at 120 days. Polyvalent leptospirosis vaccine was given to 40-day old pigs in a 1-ml dose, with revaccination (2 ml) seven days later. Pigs were not vaccinated against paratyphoid. Adult pigs are presently immunized against swine plague every ten months and against leptospirosis 1—1.5 months before farrowing. Older pigs are immunized against erysipelas in spring and fall. Orig. art. has: 1 table. [WA-50; CBE No. 32] [JS]

SUB CODE: 06/ SUBM DATE: none

Card 2/2

ACC NR: AP8016548 SOURCE CODE: UR/0390/68/031/002/0209/0213

AUTHOR: Verkhovskiy, Yu. G.; Kokina, L. P.

ORG: Division of Radiation Pharmacology /Head—Prof. K. S. Shadurskiy/, Institute of Medical Radiology /Dir—Active Member AMN SSSR, Prof. G. A. Zedgenidze/, AMN SSSR, Obninsk (Otdel radiatsionnoy farmakologii Instituta meditsinskoy radiologii AMN SSSR)

TITLE: Toxicological and antiserotonin properties of γ-carboline derivatives

SOURCE: Farmakologiya i toksikologiya, v. 31, no. 2, 1968, 209-213

TOPIC TAGS: serotonin, tranquilizer, toxicity, toxicology

ABSTRACT: This article appears in Chemical Factors

UDC: 615.787-099-015.
.11+615.787-092:612.337

Card 1/1

ACC NR: AT8016369 SOURCE CODE: UR/3349/67/032/000/0149/0164

AUTHOR: Vitivker, V. S.

ORG: none

TITLE: Food poisoning caused by *Cl. perfringens*

SOURCE: Leningrad. Institut epidemiologii i mikrobiologii. Trudy, v. 32, 1967. Voprosy etiologii i diagnostiki pishchevykh toksikoinfektsiy (Problems of etiology and diagnostics of food toxico-infections), 149-164

TOPIC TAGS: *Clostridium perfringens*, poison effect, toxin effect, toxin, bacteria toxin, heat biologic effect

ABSTRACT: Determinations of *Cl. perfringens* in various sources responsible for very severe or lethal cases of food poisoning were made. Analysis was made for heat resistant and non-heat resistant bacilli in suspected food products, responsible for single family outbreaks, feces, vomit, and sewage. Also blood and urine specimens from patients with severe cases were cultured. For each specimen or sample, quantitative determinations of *Clostridium* were made and parallel culturing at 80°C for 20 min was done to reveal heatresistant strains. The morphological, cultural, biochemical

Card 1/3

and antigenic properties of organisms isolated from food products and patients were studied. In addition to *Clostridium*, other aerobic and anaerobic organisms closely related to it or associated with food poisoning (pathogenic *E. coli*, *Salmonella*, *Staphylococcus*, *Proteus* and *Clostridium botulinum* and toxins) were sought. The etiological role of *Cl. perfringens* was considered confirmed in the absence of these organisms. All cases described were caused by improper food handling or general sanitation. Some of the recorded cases were extremely severe, even ending in death, and were often associated with the presence of other bacteria (dysentery) in addition to *Cl. perfringens*. Microbial carriers were discovered who carried the organisms in concentrations as high as 10^{-6}—10^{-1}g without experiencing symptoms. Cultures from their feces showed little antigenic relationship with pathogenic strains. The disease was produced experimentally in healthy volunteers by injecting known amounts of the organism (Perfringens-titer 10^{-6}g). Daily injections of the supernatant culture fluid containing no detectable alpha toxin (strain 323_1) were given to another group. The disease, differing in severity for each person, appeared in all volunteers receiving the organisms. Members of the control group remained healthy, experiencing none of the gastrointestinal distress apparent in the other two groups. Persons receiving the supernatant strain 323_1 suffered light symptoms. The incubation period was from 5.5—18 hr with an average of 8 hr. In all cases body temperature

remained normal or close to normal. In all experimental groups, symptoms were generally less severe than in the case histories described. However, extensive multiplication of a heatresistant strain of *Cl. prefringens* in the gastrointestinal tract of these patients occurred. Microbiological study of stools showed that in cases where severe diarrhea appeared, each gram of feces contained between 1—10 million organisms. Toxin concentration required to produce the disease was 0.000001 g and was similar to that of a previously described type A strain. Serological analysis also placed the organism as type A. Orig. art. has: 2 tables.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 017/ OTH REF: 004

ACC NR: AT8015312 SOURCE CODE: UR/0000/65/000/000/0102/0108

AUTHOR: Vlodavets, V. V.; Gaydamovich, S. Ya.

ORG: Institute of General and Community Hygiene im. A. N. Sysin, AMN SSSR (Institut obshchey i kommunal'noy gigiyeny AMN SSSR); Institute of Virology im. D. I. Ivanovskiy, AMN SSSR (Institut virusologii AMN SSSR)

TITLE: Comparative evaluation of methods for identifying influenza virus in the aerosol state

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina" 1965, 102-108

TOPIC TAGS: influenza virus, biologic aerosol, viral aerosol, biologic agent detection, biologic agent filter

ABSTRACT: The purpose of this experiment was to evaluate methods of detecting viral aerosols. A droplet suspension of influenza virus A_1, strain "Pan", was trapped in a chamber for analysis by various methods. The equipment and methods used included a D'yakonov apparatus, Rechmenskiy bacterial trap, Shafir [Schaeffer?] aerocentrifuge, Vershigora apparatus, soluble filters on gelatine film, Krotov slit apparatus, and a Kitenko

Card 1/3 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015312

Table 1. Comparative evaluation of the trapping capacity of the equipment tested.

Apparatus	No of tests	Amt of liquid (ml)	Trapped virus doses (in dilutions of substrate)						
			Undiluted	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}
Rechmenskiy bacterial trap	12	5	12	12	12	12	10	5	1
D'yakonov apparatus	12	10	12	12	12	9	3	1	—
Vershigora apparatus	12	20	12	12	12	12	6	2	—
Shafir aerocentrifuge	12	20	12	12	12	11	5	1	—
Soluble gelatine film filters	12	50	12	12	10	6	1	—	-
Krotov slit apparatus	12	5	12	12	11	9	3	—	—
Kitenko bacterial trap	12	50	12	12	12	7	2	—	—
Sodium alginate filters	12	15	12	12	9	1	—	—	—

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ACC NR: AT8015312

bacterial trap. Samples were taken 5 min after 0.3 ml allantoic culture was dispersed in a 250-l chamber. After each test the chamber was evacuated and then sterilized with short-wave ultraviolet radiation. Samples were titrated in 10—11-day chick embryos. Table 1 compares the effectiveness of the different methods. The most effective devices were the aerocentrifuge, the D'yakonov apparatus and the Vershigora apparatus. The least effective were the gelatine and sodium alginate filters. Although they were efficient traps, they inactivated the virus rather quickly so that accurate titers were impossible to obtain. Membrane filters of new materials appear to be the most promising. The Rechmenskiy apparatus is recommended for improvement, since it requires only 2—4 IED_{50}/ℓ of air while the other devices require 20—40 IED_{50}/ℓ of air. Orig. art. has: 4 tables. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AP8015851 SOURCE CODE: UR/0016/68/000/004/0094/0100

AUTHOR: Vorob'yev, A. A.; Tsybulyak, G. N.; Rozhdestvenskaya, V. O.

ORG: Leningrad Institute of Vaccines and Sera (Leningradskiy institut vaktsyn i syvorotok); Military Medical Academy im. Kirov (Voyenno-meditsinskaya akademia)

TITLE: The fate of labeled tetanus toxoids in the bodies of experimental animals. Report II

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 4, 1968, 94-100

TOPIC TAGS: tetanus, tetanus toxin, tracer study, toxoid

ABSTRACT: Crude, purified and sorbed toxins were prepared from radioactive tetanus toxin labeled with S^{35}. Toxoids were obtained from native toxins isolated from *Cl. tetani* strain 228 grown on Ramon's medium containing S^{35}. The radiation level of mouse tissue and organ homogenates facilitated the determination of the fate of the materials in the body. Using the labeling method, the distribution of toxoid was traced from 2 hr—30 days. In one series of experiments, young guinea pigs were used. Control animals received labeled methionine with an equivalent radiation level. Distribution of toxoid depended on physical and chemical state, with soluble

Card 1/2 UDC: 615.372:576.851.551]-033

ACC NR: AP8015851

toxoid being more readily absorbed and excreted than the sorbed toxoid. Radiation persisted longest at the site of injection; elsewhere in the body, the greatest amount of isotope occurred in the kidneys and the least in the brain. Highly purified toxoid persisted longest. Within 2 hr after injection, the toxoid penetrates in measurable quantities to all parts of the body, except the brain. Orig. art. has: 1 table and 5 figures. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: 07Jun67/ ORIG REF: 011/ OTH REF: 008

Card 2/2

ACC NR: AT8015310 SOURCE CODE: UR/0000/65/000/000/0084/0096

AUTHOR: Yaroshenko, V. A. (Deceased)

ORG: Ukrainian Institute of Community Hygiene (Ukrainskiy institut kommunal'noy gigiyeny)

TITLE: Viability of pathogenic staphylococci and streptococci in the air and under experimental conditions

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina", 1965, 84-96

TOPIC TAGS: staphylococcus, streptococcus, bacterial aerosol, medical experiment

ABSTRACT: This article reviews experimental data published since the 1930's by various authors concerning the viability of bacterial aerosols in the air at different temperatures and relative humidity. One of the dangers of *Staphylococci* is that, once encapsuled, the organisms can survive in dust up to 216 da and retain their virulence up to 170 da. *Staph. aureus* can survive indoors up to 42 da but lose biological activity after the third week. Experimental studies of freshly isolated hemolytic *Streptococci* and *Staphylococci* (7 highly virulent strains) were conducted in a hermetically sealed 160-l chamber at temperatures from 14—29°C and

Card 1/3 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015310

relative humidity from 45—87%. Droplet size of the bacterial suspension was from 2—3μ. Several materials were used for suspending the microorganisms. Dust aerosol charges contained about 20—30 mg of contaminated inert dust and the particle sizes generated ranged from 2—50μ. Samples were taken for study by sedimentation and aspiration procedures. The survival time of hemolytic *Staphylococci* and *Streptococci* depends on the environmental temperature and humidity and also on the kind of liquid used for suspending the organisms. Organisms survive longest in an aerosol suspension in which the carrier is distilled water with 5% serum. Hemolytic *Staphylococci* in such a medium survive up to 8 days, while *Streptococci* survive only 3 days. Staphylococcal biological activity lasts 6 days and Streptococcal only 1 day. *Staphylococci* in droplet or dust aerosols are relatively insensitive to average room temperature (16—24°C) and relative humidity (45—60%), but are killed more rapidly at higher temperatures (27—28°) and humidity (80—87%). Under the latter conditions, they survive in aerosol only 3 days. *Streptococci* are more sensitive to both types of conditions and, at high temperature and relative humidity, survive only 12 hr. An increase in the relative humidity at comparatively low temperatures facilitates aerogenic infection. *Staphylococci* can survive up to 106 days in the dark at room temperature; their virulence lasts from 6 to 84 days. Under natural light virulence lasts 5--64 days but is more likely lost within 45 days. *Staphylococci* in a dust aerosol can survive 37—212 days and retains virulence 20—176 days. Illumination reduces this to 18—115 days and 9—95 days, respectively.

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ACC NR: AT8015310

Streptococci rarely survive more than 12 days under the best conditions and lose their virulence in 1—4 da. Survival time in dust is 10—62 days and virulence may last up to 37 days, depending on the amount of light present. Orig. art. has: 2 figures and 1 table.

[WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AP8015854 SOURCE CODE: UR/0016/68/000/004/0130/0132

AUTHOR: Zemskaya, A.A.; Pchelkina, A.A.

ORG: Institute of Epidemiology and Microbiology im. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii AMN SSSR)

TITLE: The degree of infestation of some Gamasid tick species with *Rickettsia burneti* in natural foci of Q fever

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 4, 1968, 130-132

TOPIC TAGS: disease carrying insect, tick, *rickettsia burneti*, Q fever

ABSTRACT: Tests with white mice and golden hamsters showed that *Allodermanyssus sanguineus ticks* (collected from an Afghan pika in a natural focus of Q fever in the Kopet-Dagh foothills) and *Hirstionyssus criceti* ticks (collected from Chinese striped hamsters in the Lenkoran area) carry *Rickettsia burneti* in the focus and are also able to transmit the rickettsia by bite. Study of the mass Gamasid species in natural foci of Q fever in the steppe zone of Northern Kazakhstan showed that *Dermanyssus passerinus* (found in a sparrow's nest) and *Haemolaelaps casalis* (collected from a sand martin's nest) also carry *Rickettsia*

UDC: 616.981.718-022.39:576.895.
42+576.895.421:516.981.718-022.39

Card 1/2

ACC NR: AP8015854

burneti. The rickettsial carrier state was determined by bioassay on guinea pigs. The carrier tick species belong to different ecological groups: *Hl. casalis* is a nest-burrow facultative blood-sucker, *Hi. criceti* and *D. passerinus* are nest-burrow obligate blood-suckers with a tendency toward permanent parasitism, and *Al. sanguineus* is a nest-burrow obligate blood-sucker. *D. passerinus* and *Hl. casalis* are primarily bird parasites with much less chance of infecting man with the agent of Q fever than the rodent species *Al. sanguineus* and *Hi. criceti*. Orig. art. has: 1 table. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: 13Jul67/ ORIG REF: 013/ OTH REF: 004

Card 2/2

ACC NR: AT8015307 SOURCE CODE: UR/0000/65/000/000/0071/0075

AUTHOR: Zhalko-Titarenko, V.P.

ORG: Kiev Scientific Research Institute of Epidemiology and Microbiology (Kiyevskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii)

TITLE: Experimental study of the viability of diptheria bacilli in aerosol

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina," 1965, 71-75

TOPIC TAGS: bacterial aerosol, diptheria

ABSTRACT: The viability of diptheria bacteria in a polydisperse aerosol was determined taking into account changes in the mean particle diameter and in the aerosol count to compensate for sedimentation. Tests were conducted in a KIEM-5 aerosol chamber, using sodium alginate filters to determine the concentration of live bacteria in the air. A bacterial suspension containing 10—14 billion cells per ml was sprayed into the chamber. Dying off of dysentery bacteria (strain PW-8) in aerosol (using

Card 1/3 UDC: 614.4-078+576.8:614.4

ACC NR: AT8015307

the first viability determination as 100%) is shown schematically in Fig. 1. At -6°C, viability dropped 80% in 2 hr, with a dying-off rate

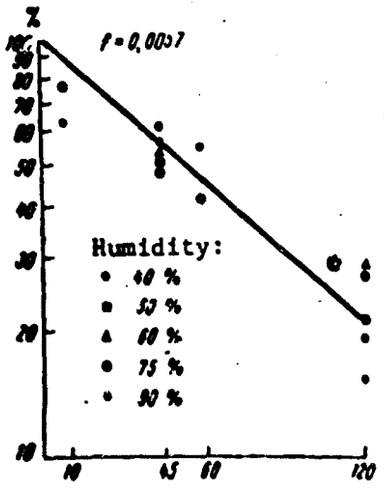

Fig. 1. Graph of dying off of dysentery bacteria sprayed in water at 18°C.

of 0.5×10^{-3}. At 35°C, dying off was intensified: the rate was 16.9×10^{-3} to 34.6×10^{-3}. The viability of diptheria bacteria in saliva aerosol is shown in Fig. 2. Substances such as saliva or broth

ACC NR: AT8015307

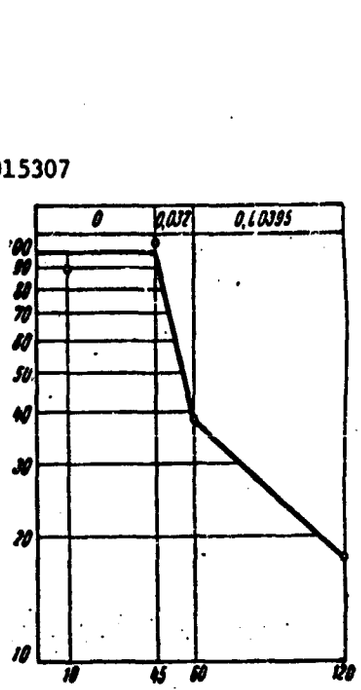

Fig. 2. The viability of diptheria bacteria in a polydisperse saliva aerosol at 18°C and 61% humidity.

protect bacteria in aerosol for some time (depending on the dimension of the aerosol particle). When the water from the broth or saliva dries up, however, cell water begins to evaporate and bacteria die off very rapidly. Orig. art. has: 4 figures. [WA-50; CBE No. 32][JS]

SUB CODE: 06/ SUBM DATE: none

Card 3/3

ACC NR: AP8016829 SOURCE CODE: UR/9091/67/000/005/0148/0153

AUTHOR: none

ORG: none

TITLE: Chemical mutagenesis in the service of selection

SOURCE: Vestnik sel'skokhozyaystvennoy nauki, no. 5, 1967, 148-153

TOPIC TAGS: chemical mutagen, biologic mutation, agriculture science, genetics conference

ABSTRACT: More than 120 reports on agricultural applications of chemical mutagenesis were read at the All-Union Conference on Chemical Mutagenesis, held in Moscow, in February 1967. I. A. Rapoport gave a keynote report on supermutagens, those compounds which have a greater genetic effect than ionizing radiation. Supermutagens have been applied to all kinds of plants, and such application has yielded superior wheat and barley varieties. N-nitroso-ethylurea and N-nitroso-N-methylurea were the mutagens used in winter wheat mutation experiments at the Krasnodarsk Agricultural Institute. Similar successful results using other mutagens were reported by other institutes. Many of the mutants were polyploids. Significant changes in mutation frequency occurred with mutagen concentrations as low as 1:10,000. Chemical mutagens have also been employed in interspecies hydridization. Hardier and earlier sprouting rye varieties have

Card 1/2 UDC: 631.52+581.154

been developed at the Siberian Agricultural Institute. Mildew-resistant plants have been obtained at other research facilities through chemical mutagenesis. [WA-50; CBE No. 32] [LP]

SUB CODE: 06/ SUBM DATE: none

ACCESSION NUMBERS FOR BIOLOGICAL FACTORS

AP8013454
AP8014140
AP8014141
AP8015844
AP8015860
AP8015863
AP8016541
AP8016837
AP8017239
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AP8017929
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ACC NR: AP8009885 SOURCE CODE: UR/0020/68/178/003/0702/0705

AUTHOR: Dorpgol'ts, V. F.

ORG: none

TITLE: Geochemical characteristics of the meteoric waters of the Yenisey area of the Arctic

SOURCE: AN SSSR. Doklady, v. 178, no. 3, 1968, 702-705

TOPIC TAGS: atmospheric precipitation, air pollution, meteoric water

ABSTRACT: Chemical analyses are reported for 157 samples of atmospheric precipitation (snow) which fell during the winter in a 450-km forest-tundra area near 70° N. lat. The principal topographic features in the area were a mesa and a wide river valley (see Table 1).

Table 1

	Ten-day IV period (10^{-2})	Ten-day V period (10^{-3})	Ten-day VI period (10^{-4})	Ten-day VII period (10^{-5})	Ten-day VIII period (10^{-6})
Maximum	Mg—O—S—C—Na 7,0 3,4 1,6 1,3 1,2	Ca—Mg—Cl 6,6 5,9 3,7	H 3,5	—	—
Average	M* 1,0	O—Na—S 4,7 2,2 1,6	Ca—Cl—C 8,9 6,5 5,1	Mg—H 9,2 2,6	—
Minimum	—	M 1,9	O—C—Ca 8,9 1,1 1,2	Cl—Na—Mg 1,8 1,6 1,4	S—H 6,0 1,6
Content of atoms, mg/l	Hundreds	Tens	Units	Tenths	Hundreths

*Here, M denotes mineralization. Hydrogen and oxygen atoms in the water are not taken into account.

Card 1/2 UDC: 551.578.46+551.49

ACC NR: AP8009885

Significant date obtained from the analyses include the fact that the average amount of mineralization of the meteoric water of the snow was 2.5 times that estimated by Vernadskiy for the earth as a whole, i.e., 10^{-2} as against 4.10^{-3}%. Of the 128 samples analyzed, 96% fell in the sulfate class and 89% in the sodium group. The degree of mineralization varied widely between 19 and 700 mg/l, the average being 100 mg/l. The results also showed a three-area distribution: 1) a valley on the left bank of a large river, covered in the winter with deep snow underlain by thick Quaternary lacustrine deposits, 2) a mesa slope extending into the valley in terraces on which numerous industrial plants are located, and 3) the mesa which is highly eroded basic extrusive and intrusive igneous rocks, and on whose slopes there are alluvial fans, talus and alluvial deposits. The high content of sodium and sulfur found in the samples from the third zone are attributed to wind erosion of the bedrock rather than to industrial pollutants. In the second zone, however, the high mineralization is attributed to industrial pollution as well as to wind-blown dusts. The relatively small amount of mineralization found in the valley area is attributed to micrometeorological conditions which confined the dispersion of pollutants to the valley area. Paper presented by Academician D. C. Korzhinskiy. Orig. art. has: 1 figure and 3 tables. [WA-50; CBE No. 32] [ER]

SUB CODE: 04, 08/ SUBM DATE: 09Jun67

Card 2/2

III. ENVIRONMENTAL FACTORS

ACC NR: AR8015434 SOURCE CODE: UR/0169/67/000/012/B022/B022

AUTHOR: Gubar', G. A.

ORG: none

TITLE: Investigation of the vertical flows over Baikal

SOURCE: Ref. zh. Geofizika, Abs. 12B138

REF SOURCE: Sb. rabot Irkutskoy gidrometeorol. observ., vyp. 1, 1966, 86-94

TOPIC TAGS: atmospheric circulation, wind field, vertical flow, thermal, valley circulation, eddy velocity, atmospheric turbulence

ABSTRACT: An expedition, operating in December 1964 in the area of the Bolshaya Goloustnaya station, studied the qualitative and quantitative characteristics of the thermal vertical flows over Baikal, and made base-line observations for transosonde and ordinary pilot balloons of both low- and high-speed vertical ascents. The speed of vertical flows (W) was determined from the equation $W = W_f - W_c$, where W_f is the factual vertical speed of the flow determined from the base-line observations and W_c is the calculated vertical speed of the balloon. From 19 to 25 December and from

Card 1/2 UDC: 551.515.11

ACC NR: AR8015434

1346 hr or 26 December to the end of the expedition, a northwesterly cold flow of air flowed into the lake basin; it was compensated by warm air over the lake. The thermal flows over the lake were weakened by an inflow of cold northwest winds passing over the coastal range on 26 December. Convective processes bieng generated over the lake were accompanied by the development of intensive eddies. The average size of the rising part of the eddy was 168 m and that of the descending portion, 85m. The velocity of the anabatic flows over Baikal varied from several centimeters to several meters per second. The maximum velocity of the anabatic flows (702 cm/sec) occurred on 25 December at 1300 hr in the 600—1510 m layer above the lake and the minimum velocity (208 cm/sec) on 26 December. The average velocity of the thermals up to a height of 800 m above the lake was 37 cm/sec when the temperature contrast between the land and the water was 7—13°.

[WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: none

Card 2/2

ACC NR: AT8013982 SOURCE CODE: UR/3340/67/000/002/0027/0036

AUTHOR: Kalenov, G. S. (Member of geologo-geophysical expedition); Fedorenko, K. Ya. (Member of geologo-geophysical expedition)

ORG: Desert Institute, Academy of Sciences Turkmen SSR; Geological-Geophysical Expedition of the Geological Administration, Turkmen SSR (Institut pustyn' Akademii nauk Turkmenskoy SSR; Geologo-geofizicheskaya ekspeditsiya Upravleniya geologii Turkmenskoy SSR)

TITLE: Some characteristics of the distribution of vegetation in the sands of the Lower Kara-Kums

SOURCE: AN TurkmSSR. Nauchnyy sovet po probleme pustyn'. Problemy osvoyeniya pustyn', no. 2, 1967, 27-36

TOPIC TAGS: area description, desert geography, desert vegetation, desert soil, eolian deposit, floodplain deposit, desert landform

ABSTRACT: A detailed study is presented of the parent materials, depositional medium, texture, composition, and relief forms of the desert sands in an area on the southern edge of the Lower Kara Kums (deserts) close to and part of the Amu-Dar'ya plains. The relationships of the geographic positions of the various kinds of deposits to the types of vegetation growing on them are described in detail. The ecological-geological associations

Card 1/2

ACC NR: AT8013982

are close enough to be of value in the photointerpretation of aerial photographs of the area. Orig. art. has: 3 figures and 1 table.
[WA-50; CBE No. 32] [ER]

SUB CODE: 08/ SUBM DATE: 20Dec66/ ORIG REF: 005

Card 2/2

ACC NR: AT8014491 SOURCE CODE: UR/3340/67/000/003/0044/0051

AUTHOR: Kharin, N. G.

ORG: Desert Institute, Academy of Sciences Turkmen SSR (Institut pustyn' Akademii nauk Turkmenskoy SSR)

TITLE: Reflectivity of the vegetation of the southeastern Kara-Kums

SOURCE: AN TurkmSSR. Nauchnyy sovet po probleme pustyn'. Problemy osvoyeniya pustyn', no. 3, 1967, 44-51

TOPIC TAGS: photogrammetry, aerial photo interpretation, vegetation reflectivity, spectral brightness, desert area

ABSTRACT: Results are presented of a field study carried out in two areas of the Kara-Kum deserts to determine the spectral reflectivity of the local vegetation for use in determining the optimum season and time of day for aerial survey programs. An electronic spectrometer operating in the 400—900 nm range was used. Cloud conditions during the measurement periods ranged from 0—2 or 3% cloud cover. Isolated areas of vegetation were investigated as well as large-area concentrations during two seasons (April

Card 1/2 UDC: 528.77:634.92

ACC NR: AT8014491

to May and October to November). Field studies identified types of vegetation. Spectral brightness measurements of about 30 types of vegetation are tabulated for both periods of the year in the following wave lengths: 400, 450, 500, 550, 600, 650, 700, 750, 800, and 850. Several photo image color tones (color photography) were found to be usable as photointerpretation keys. Orig. art. has: 4 figures, 1 table, and 1 formula.

[WA-50; CBE No. 32] [ER]

SUB CODE: 08/ SUBM DATE: 08Dec66/ ORIG REF: 007

Card 2/2

ACC NR. AT8011680 SOURCE CODE: UR/2648/67/000/030/0051/0057

AUTHOR: Konovalov, V. G.

ORG: none

TITLE: Change in the heat balance of the ablation and the properties of the treated surface of ice and firn brought about by artificial soot

SOURCE: Tashkent. Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy, no. 30(45), 1967. Voprosy glyatsiologii Sredney Azii (Problems of glaciology of Central Asia), 51-57

TOPIC TAGS: hydrology, water supply, ablation, snow field, ice field, runoff, heat balance, heat flux, turbulent heat flux

ABSTRACT: The results of a series of experiments carried out to determine the advantages which might be realized in drought years by covering snow and ice fields in the mountains of Central Asia with coal dust in order to increase the ablation rate and thus augment the water supply in arid regions are summarized and analyzed. It is shown that the effectiveness of dusting increases much more slowly as the dust concentrations are increased. The blackened surface of a melting glacier caused a change in the long-wave radiation balance which was commensurate with its balance under

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ACC NR: AT8011680

natural conditions. The changes in the depth of the microgranular structure of the surface of the ice and firn brought about by the dust was reflected in the intensity of the heat- and moisture exchange in the atmospheric surface boundary layer. Orig. art. has: 1 figure, 1 table, and 6 formulas. [WA-50; CBE No. 32] [ER]

SUB CODE: 08, 04/ SUBM DATE: none/ ORIG REF: 014

Card 2/2

ACC NR: AT8012636 SOURCE CODE: UR/0000/67/000/000/0036/0041

AUTHOR: Kuznetsov, V. V.

ORG: none

TITLE: The assemblage and design of keys of soil images or aerial photographs

SOURCE: Moscow. Laboratoriya aerometodov. Aerofotograficheskoye etalonirovaniye i ekstrapolyatsiya; metodicheskoye posobiye (Identification and extrapolation of photo interpretation keys; a methods handbook). Leningrad, Izd-vo "Nauka", 1967, 36-41

TOPIC TAGS: aerial photo interpretation, photo interpretation key , data retrieval, soil information coding

ABSTRACT: A detailed description is presented of the content of a sample of a standard K-5 punch card (147 x 207 mm) designed for use as a coded photointerpretation key in identifying soils from aerial photographs. The card has a 9 x 12 cm aerial photograph of the selected area on which soil-type occurrences are annotated. The scale of the photograph, the type of film used, the characteristics of the aerial camera, the method of negative processing, the γ-value, and the address where the negative is stored are

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ACC NR: AT8012636

noted below the photograph. Detailed data encoded on the margins of the punch card are listed and shown on the diagram. These data included soil varieties, areas of occurrence, economic utilization, degree of soil erosion, soil textures, parent soil materials, chemical composition, and ground water. Orig. art. has: 1 figure. [WA-50; CBE No. 32] [ER]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 002

Card 2/2

ACC NR: AT8012635 SOURCE CODE: UR/0000/67/000/000/0031/0036

AUTHOR: Kuznetsov, V. V.; Tolchel'nikov, Yu. S.

ORG: none

TITLE: Principles of selecting aerial photographs for soil photointerpretation keys

SOURCE: Moscow. Laboratoriya aerometodov. Aerofotograficheskoye etalonirovaniye i ekstrapolyatsiya; metodicheskoye posobiye (Identification and extrapolation of photointerpretation keys; a methods handbook). Leningrad, Izd-vo "Nauka", 1967, 31-36

TOPIC TAGS: aerial photo interpretation, photo interpretation, photo interpretation key, soil type, soil photo interpretation key

ABSTRACT: The principal types of keys used in identifying soils from aerial photographs are: keys of principal soil units, consisting of segments of photographs which can be used in map legends to illustrate soil types and related landscapes; land form keys; keys prepared from stereo photographs which illustrate the association of soil types to landforms and types of vegetation; profile keys which consist of segments of narrow strips of photographs showing micro- and meso-relief forms, accompanied by a topographic profile, and on which typical relief forms, vegetation, ground-water,

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ACC NR: AT8012635

and soil-forming parent materials are shown; and aerial photograph keys which reflect the entire community of landscape components and their relative terrain dispositions. Requirements imposed on the photographic keys are described as they relate to photographic scale, the size of the key, as well as to the aerial camera itself, its films, and the time and season desired for the survey. The system by which the keys are arranged on punch cards is also discussed. [WA-50; CBE No. 32] [ER]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 011/ OTH REF: 003

Card 2/2

ACC NR: AP8010421 SOURCE CODE: UR/0362/68/004/002/0220/0223

AUTHOR: Melkaya, I. Yu.

ORG: Leningrad Hydrometeorological Institute (Leningradskiy gidrometeorologicheskiy institut)

TITLE: Stationary model of radiation fog

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 4, no. 2, 1968, 220-223

TOPIC TAGS: atmospheric model, atmospheric surface boundary layer, fog, radiation fog

ABSTRACT: A model is presented for a stationary fog which is horizontally homogeneous above a rough underlying surface. The top of the fog is within the surface boundary layer; the fog droplets in suspension in the air are completely absorbed by the motion of the air particles; incoming heat rays are significant only at the top of the fog; and the underlying surface is absolutely absorbing to the fog droplets. The initial system of equations includes: Heat influx into the surface boundary layer:

$$\frac{d}{dz}k_u\left(\frac{dT}{dz}+\gamma_a\right)+\frac{Lm}{c_p}=0. \quad (1)$$

Card 1/9 UDC: 551.575.1

ACC NR: AP8010421

Equations for water vapor and droplet moisture transfer:

$$\frac{d}{dz}k_u\left(\frac{dq}{dz}+\beta\right)-m=0, \quad (2)$$

$$\frac{d}{dz}k_u\left(\frac{d\delta}{dz}-\beta\right)+m=0, \quad (3)$$

$$q=q_m(T). \quad (4)$$

Equations for the dynamics of the surface boundary layer with diffusion of turbulent energy neglected:

$$\frac{d}{dz}k\frac{du}{dz}=0, \quad k=lb^{1/2}, \quad (5)$$

$$l=-\varkappa\psi/(d\psi/dz), \quad k\psi=cb^{3/2}/l, \quad (6)$$

$$k_u=c_uk, \quad \psi=\left(\frac{du}{dz}\right)^2-\frac{g}{T_a}c_u\left(\frac{dT}{dz}+\gamma_a\right)-gc_u\frac{R}{R_a}\left(\frac{dq}{dz}+\beta\right). \quad (7)$$

Boundary conditions: (8)

$$T(z)=T_a \quad q(z)=q_m(T_a), \quad \delta(z)=0, \quad u(z)=0, \quad k(du/dz)=v_*^2 \text{ where } z=z_a \quad (9)$$

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Heat balance equation at the top of the fog layer:

$$k_u\left(\frac{dT}{dz}+\gamma_a\right)+\frac{L}{c_p}k_u\left(\frac{dq}{dz}+\beta\right)\Big|_{z=h-0}=$$
$$=k_u\left(\frac{dT}{dz}+\gamma_a\right)+\frac{L}{c_p}k_u\frac{dq}{dz}-\frac{F_{eff}}{\rho c_p}\Big|_{z=h+0}, \quad (10)$$

Water balance equation at the top of the fog layer:

$$k_u\left(\frac{dq}{dz}+\beta\right)+k_u\left(\frac{d\delta}{dz}-\beta\right)\Big|_{z=h-0}=k_u\frac{dq}{dz}\Big|_{z=h+0}. \quad (11)$$

Here x,z are Descartes coordinates with the x axis directed horizontally along the mean air flow, u is the air flow speed, m is the rate of water vapor condensation, q is the specific humidity of the air, δ is the specific water content of the fog, b is the kinetic energy of turbulent fluctuations, l is the mixing length, α_u is the ratio of the coefficients of turbulent exchange for heat and momentum, $q_u(T)$ is the specific humidity saturation, γ_a is the moist-adiabatic lapse rate, β is the humidity equilibrium gradient, E_{eff} is the effective radiation of the top of the fog, h is the height of the fog, $\tilde{x} = 2c^{1/4}x$, where $c = 0.04\varkappa = 0.04$ is the Karman constant, and R and R_v are the universal gas constants of air and water vapor. A supplementary condition in determining h is:

$$\delta|_{z=h-0}\to 0. \quad (12)$$

With the additional designations

$$\tilde{P}=T+\frac{L}{c_p}q+\gamma_a z, \quad Q=q+\delta, \quad (13)$$

a system of equations

$$\frac{d}{dz}\alpha_u k\frac{d\tilde{P}}{dz}=0, \quad \frac{d}{dz}\alpha_u k\frac{dQ}{dz}=0, \quad (14)$$

$$k\Psi=cb^{3/2}/l, \quad \Psi=\left(\frac{du}{dz}\right)^2-B\frac{d\tilde{P}}{dz}, \quad (15)$$

is obtained in place of (1)—(7), where

$$B=\frac{\alpha_u\left[\frac{\gamma}{T}+\gamma\left(\frac{R}{R_v}\right)^2\frac{e'(T)}{p}\right]}{1+\frac{L}{c_p}\frac{R}{R_v}\frac{e'(T)}{p}}. \quad (16)$$

The dimensionless variables introduced are:

$$\tilde{l}=z/L_*, \quad \tilde{u}=xu/v_*, \quad \tilde{k}=k/xv_*L_*, \quad \tilde{P}=\alpha_u(p-p_0)/P_*,$$
$$\tilde{Q}=\alpha_u(Q-Q_0)/Q_*, \quad \tilde{\delta}=c^{1/2}b/v_*^2, \quad \tilde{T}=t/c^{1/2}L_*, \quad \tilde{\Psi}=\Psi x^2L_*^3/v_*^2. \quad (17)$$

Here

$$p_0=(\varkappa v_*)^{-1}\left[k_u\left(\frac{dT}{dz}+\gamma_a\right)+\frac{L}{c_p}k_u\frac{dq}{dz}-\frac{F_{eff}}{\rho c_p}\right]\Big|_{h+0},$$

$$Q_0=(\varkappa v_*)^{-1}k_u\frac{dq}{dz}\Big|_{h+0}, \quad L_*=\frac{v_*^3}{\varkappa^3 R P_*}, \quad (18)$$

P_o, Q_o are the P and Q values at the level of roughness. The system then takes the form

$$k(d\tilde{P}/d\tilde{z}) = 1, \qquad k(d\tilde{u}/d\tilde{z}) = 1, \qquad k(dQ/d\tilde{z}) = 1, \tag{19}$$

$$k = 2\tilde{\Psi}h, \qquad l = -2\tilde{\Psi}/(d\tilde{\Psi}/d\tilde{z}), \tag{20}$$

$$\tilde{\Psi} = (d\tilde{u}/d\tilde{z})^2 - d\tilde{P}/d\tilde{z}, \qquad k\tilde{\Psi} = \tilde{k}h/l. \tag{21}$$

The boundary conditions are

$$\tilde{k}|_{\tilde{z}=\tilde{z}_0} = 0, \qquad \tilde{P} = \tilde{Q} = \tilde{u}|_{\tilde{z}=\tilde{z}_0} = 0, \tag{22}$$

$$\tilde{z} = \frac{h}{L_*}, \qquad \tilde{Q}_h = \frac{[q_m(T_h) - q_m(T_0)]\varkappa v_*}{k_n(dq/dz)|_{h+0}}, \tag{23}$$

where $\tilde{Q}_h$, T_h are the values of $\tilde{Q}$ and T at the top of the fog. This system of equations for the functions $\tilde{P}$, $\tilde{Q}$, and $\tilde{u}$ differs in no way from the following similar formulas in dry air for the functions $\tilde{\theta}$, $\tilde{q}$ and $\tilde{u}$, as solved by Zilitinkevich and Laykhtman (Izv. AN SSSR. Fizika atmosfery i okeana, v. 1, no. 2, 1965):

$$\tilde{Q} = \tilde{P} = \tilde{u} = \frac{2}{S} + \ln\left|\frac{1-S}{1+S}\right| + 2\operatorname{arctg} S + \text{const}, \quad \tilde{z} = \frac{2}{S} - \frac{2}{3}S^3 - \frac{4}{3}, \tag{24}$$

where $S = (1 - \tilde{k})^{1/4}$. The height of the fog layer $\tilde{h}$ is determined from (23). In reducing the equation (24) to dimensional form, the following

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"external" parameters, which completely determine the distribution during periods of fog of meteorological characteristics in the surface boundary layer, must be known:

$$z_0, v_*, k_n\left(\frac{dT}{dz} + \gamma_a\right) + \frac{L}{c_p}k_n\frac{dq}{dz} - \frac{E_{\text{eff}}}{\rho c_p}\Big|_{h+0}, \quad k_n\frac{dq}{dz}\Big|_{h+0}.$$

The graphic representation of the profiles of the various meteorological characteristics in a fog, calculated with the following conditions

$$a_n = 1, \qquad z_0 = 2\cdot10^{-2}\ \text{m}, \qquad T_0 = 283^\circ\text{K}, \qquad v_* = 0{,}1\ \text{m/sec},$$

$$P_* = 0{,}054^\circ\text{K}, \quad \frac{k_n\frac{dq}{dz}\Big|_{h+0}}{\varkappa v_*} = 1{,}5\cdot10^{-3}\ \text{g/kg}$$

is given in Fig. 1. These calculations are in agreement with actual observations. For example, observed values of the coefficient of turbulent viscosity k at h = 1 m is in the range of 0.01—0.05 m^2/sec. Its increase in the upper fog layer, as compared to a fogless condition, is due to an increase at these levels of wind-speed and temperature gradients in the fog. In the case of the wind speed at the vane level, it has a maximum frequency of 26% at speeds of 2—3 m/sec. Measured amounts of moisture in

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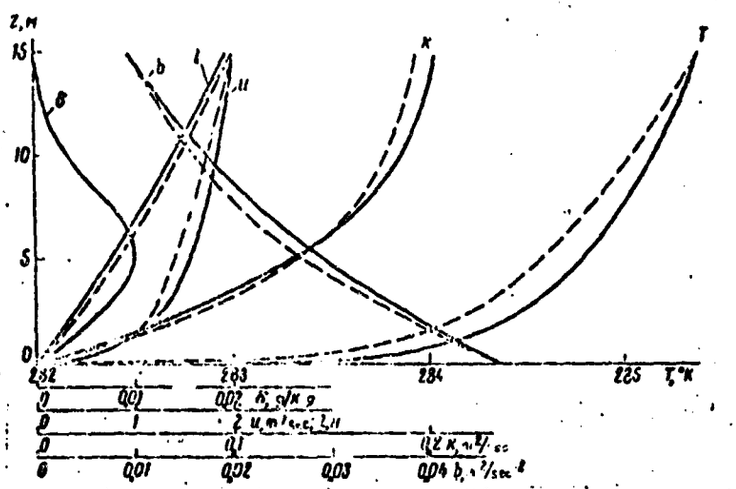

Fig. 1. Distribution of various meteorological elements in the surface boundary layer when fog is present (solid lines) and without fog (dashed lines)

low fogs (no higher than 10—15 m, at soil temperatures between 7—15°C and wind speeds of 1—1.5 m/sec) give a maximum value of 0.01—0.08 g/m^3, which corresponds to a specific humidity of 0.07—0.08 g/kg. The height of the fog layer is very dependent (in addition to v_*, Π_*, z_0) on the magnitude of the vertical turbulent flow of water vapor from the air layer above the fog and acts as the source of moisture for maintaining fog-moisture consistency. The dependence of the dimensionless height of the fog layer on the determined parameters $P_0/T_0, k\frac{dq}{dz}\Big|_{z=0}[\varkappa v_* q_m(T_0)]^{-1}$ is illustrated in Fig. 2.

Fig. 2. Dependence of the height of the fog layer h on "external" parameters: $\frac{P_0}{T_0 z_0}; k\frac{dq}{dz}\Big|_{z=0}[\varkappa v_* q_m(T_0)]^{-1}$ (drawn for the isolines of parameter $k\frac{dq}{dz}\Big|_{z=0}[\varkappa v_* q_m(T_0)]^{-1}$)

ACC NR: AT3010421

Water content is the most important characteristic of fog density (See Fig. 3). Therefore, the distribution of all of the meteorological

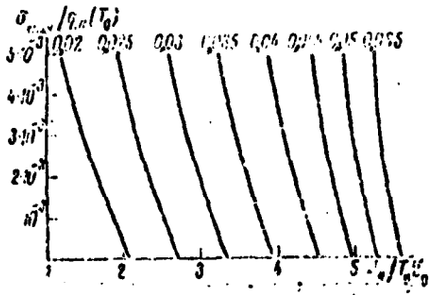

Fig. 3. Dependence of fog density $\delta_{max}/q_m(T_0)$ on "external" parameters (drawn for the isolines of the parameter $k=\frac{dq}{dz}\Big|_{z=0}\left(\frac{1}{q_m(T_0)}\right)$)

characteristics in a fog can be found from the given "external" parameters of the surface boundary layer. Orig. art. has: 3 figures and 23 formulas. [WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: 18Mar67/ ORIG REF: 007

Card 9/9

ACC NR: AR8015435 SOURCE CODE: UR/0169/67/000/012/B046/B046

AUTHOR: Moskalyuk, I. S.

ORG: none

TITLE: Influence of general atmospheric circulation processes on wind power in Moldavia

SOURCE: Ref. zh. Geofizika, Abs. 12B297

REF SOURCE: Sb. Materialy dokl. 3-y Nauchno-tekhn. konferentsii Kishinevsk. politekhn. in-ta. Kishinev, 1967, 261-262

TOPIC TAGS: atmospheric circulation, wind field, wind power

ABSTRACT: A discussion is presented of the characteristics of the atmospheric circulation processes over Moldavia. The analysis indicates that the cyclonic field which prevails over the area for all seasons of the year causes conditions which are favorable to the development and utilization of wind power which is adequate for industrial purposes.

[WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: none

Card 1/1

ACC NR: AT8014591 SOURCE CODE: UR/2789/67/000/079/0048/[illegible]

AUTHOR: Pakhomov, L. A.

ORG: none

TITLE: Character of the wind field and temperature in the vicinity of the tops of wave [undulatus] clouds

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 79, 1967. Fizika oblakov (Physics of clouds), 48-60

TOPIC TAGS: aviation meteorology, stratiform cloud, undulatus cloud, wind field, atmospheric temperature, temperature field, cloud structure

ABSTRACT: Results are presented of an investigation carried out at the Cloud Physics Laboratory of the Central Aerological Observatory to determine the structure of undulatus clouds, especially of the wind and temperature characteristics. Data were collected on IL-14M aircraft flights and included measurements of the fluctuation of three components of the wind velocity vector and of temperature, as well as measurements of cloud water content, cloud dimensions, etc. Generally, the clouds were of the ultramass type, were under the 3-km level, and below a temperature inversion

Card 1/3 UDC: 551.508.59

ACC NR: AT8014591

layer. Another feature was that the direction in which the cloud banks or billows were elongated at the top of the solid cloud deck coincided with the average wind direction. Horizontal soundings were made parallel and normal to the cloud billows. In flying at right angles into the billows the horizontal component of the wind velocity changed periodically and the vector deviated to the left relative to its direction in the layer above the clouds. Temperature measurements and the vertical component of the wind velocity also were of a periodic nature. Random fluctuations of a turbulent character were superimposed on these periodic variations and occurred in a comparatively thin zone near the cloud tops. Changes in the vertical component included a sharp increase in the rising motions which were almost like rectangular pulses as the plane flew through a billow (edges of the pulse coincided within tenths of a second to the moment of cloud entrance or exit). Correlation coefficients were calculated to determine the interrelationships of the various parameters measured. Those calculated for the relationships between the temperature and the horizontal component of wind velocity (transverse to the billows) were close to unity in absolute values. The mean square values were 1.1° and 1.52 m/sec, respectively. The overall mean velocity of the ascending motions in the billows was 0.41 m/sec and -0.21 m/sec for the descending motions. The cloud structure

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ACC NR: AT8014591

determined in the study suggest that undulatus-type clouds are associated with waves on the interface between them and the inversion layer above them. Orig. art. has: 5 figures and 7 formulas. [WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: 05Feb67/ ORIG REF: 004

Card 3/3

ACC NR: AT8012044 SOURCE CODE: UR/2648/67/000/031/0019/0034

AUTHOR: Petrosyants, M. A. (Doctor of geographical sciences); Chanysheva, S. G. (Candidate of physico-mathematical sciences)

ORG: none

TITLE: Distribution of divergence and vertical flows above areas of complicated orography in periods of cold air invasions

SOURCE: Tashkent. Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy, no. 31(46), 1967. Temperaturnyy rezhim i analiz frontov v gorakh (Temperature regime and analysis of fronts in the mountains), 19-34

TOPIC TAGS: wind field, atmospheric circulation, divergence, vertical air flow, orographic effect, cold air invasion, local wind, foehn, frontal eddy

ABSTRACT: A preliminary step in a study of divergence and vertical motions in the prevailing wind field during cold air mass invasions of the Central Asian mountains was the computation of mean divergence using a four-point grid and the formula

$$\operatorname{div} \vec{V} = \frac{1}{r \sin \theta}\left(\frac{\partial u}{\partial l} + \frac{\partial v}{\partial \theta} \sin \theta\right),$$

Card 1/6 UDC: 551.558.21

where r is the radius of the earth, u and v are wind-vector components, λ is longitude, θ is the latitudinal complement, and $\Delta\lambda = \Delta\theta = 10°$ is the grid interval. In the detailed study actual data were used and included the map of prevailing winds compiled by Z. G. Bam. The divergence D was calculated from a 12-point grid, which was constructed with map scale taken into account, with the formula

$$D_{12} = \left(\frac{\partial u}{\partial x} + \frac{\partial v}{\partial y}\right)_{12} = \frac{1}{6l}\{(u_1 - u_3) + 0{,}5[(u_2 - u_4) + (u_8 - u_6) + (u_9 - u_{13})] + (v_3 - v_7) + 0{,}5[(v_2 - v_8) + (v_1 - v_6) + (v_{11} - v_{12})]\},$$

where $l = 1°$ along the meridian. The vertical flows were determined by the kinematic method from the formula

$$W_1 = W_0 - \int_{z_0}^{z_1} D_{12}\,dz.$$

In lowland areas W_0 was assumed to equal zero; in the mountainous areas it was calculated from the formula

$$W_0 = v \operatorname{tg} \alpha,$$

where v is the velocity of the winds prevailing in the area and α is the slope of the terrain. All calculations were made for elevations of 1, 2, 3, 5, and 8 km above sea level. The order of magnitude of the prevailing

wind was derived as 10^{-5} sec^{-1}, and that of the vertical motion, 1—20 cm/sec. Three types (phases) of cold air masses invading from the northwest are distinguished. In phase I situations, the cold front approaches the Aral Sea, and southwest winds are observed in the boundary layer over the lowlands of Central Asia. In the eastern mountainous area local east winds prevail in those valleys which open to the west. Airflow convergence and rising air currents predominate in the lowlands between the cold front and the massive mountain barrier. The mountainous portion of Central Asia and a wide foothill belt form a zone of divergence, the foothill divergence being caused by the passage of southwesterly winds at right angles to the Zeravshan, Turkestan, Aktau, Talass-Alatau, and Karatau Ranges; the divergence develops on the leeward sides and is associated with katabatic flows which are very strong above the zones of local storm winds. Eddies develop well in advance of the cold front and move around the mountain system from the west; they cause increasingly prefrontal low clouds above the lowlands and they dissipate in the foothills. In the mountains at a height of 3 km the winds change from local winds to flows in the free atmosphere, and the east winds are replaced by southwesterly winds. In the much higher layers the southwest winds predominate and in them convergence and anabatic winds occur not only over the lowland but also are trapped by the Pamir-Alay and Tien-Shan Mountains. Katabatic winds occur at these heights only on the northern and southern peripheries

of the Central Asian mountain systems. In phase II, the front extends across the central part of Central Asia. In the boundary layer the wind field is that of a trough (northwest winds over the lowlands and southwest over the mountains, easterly winds being restricted to Tadzhikistan). Convergence and anabatic winds occur over most of the plains of Central Asia and above the southern part of Tadzhikistan. Southeastern Turkmenia, the Golodnaya Steppe, and the Fergana basin are still in a divergence zone; the vertical wind field undergoes changes in the mountainous areas, with an area of vertical flows in the lower Amu-Dar'ya river which is associated with an advancing front. Katabatic winds develop in southeastern Turkmenia because the pre-frontal air mass passes across the Kopet-Dag and the Murgab and Tedzhen interfluve. These southwesterly flows merge with the east winds over Tadzhikistan and produce an area of convergence and rising currents which unites with the rising air mass on the windward slopes of the Gissar, Turkestan and other ranges of the Pamir-Alay system. Unlike the conditions in the phase I situation, the maximum katabatic winds are shifted far into the mountains by the outflow of air from the mountains toward the front. At heights of between 3 and 8 km over the lowlands, the flow is westerly and convergence and anabatic flows occur over the lowlands and the Aral Sea as well as on the windward slopes of the Pamir-Alay and Tien-Shan Mountains. Areas of divergence and katabatic flows merge with regions in which the air masses settle in front of the Kopet-Dag and over the Fergana

basin and the northernmost Tien-Shans. Therefore, during this phase, a gigantic wave system develops in the middle troposphere when southwest winds prevail over the mountainous areas. Meanwhile, along the foothills west of the mountains, there is one wave with a trough over the middle reaches of the Amu-Dar'ya and Chu valley and a crest over the Nuratau. There are two waves over eastern Central Asia, with a trough over the Fergana and Chu valleys and a crest above the Pamir-Alay and Tien-Shan mountains. These waves extend throughout the upper troposphere and lower stratosphere. On the lee side of the Kopet-Dag and Iranian uplands there is an extensive area of descending flows which reaches to the 8-km layer. These flows also occur over the Fergana valley at all levels. Therefore, the outflow of air occurring in the stormy prefrontal orographic winds in the 1—2-km layer is caused by air settling from the 3—8-km layer. In the third phase, the front has moved away from the mountains and the circulation in the boundary layer is anticyclonic, i.e., northeast winds in the mountains and southeast winds on the flatlands. At the 3-km level these winds change direction with height and gradually become northwesterly. Divergence is uniformly distributed throughout the layer and conforms to the anticyclonic situation, with a large area of divergence and katabatic winds over the central part of the area. North and south of this area are areas of convergence. The divergence fields and vertical flows are further analyzed for the various phases during situations in which the cold air invasions are from the north and northeast (ultrapolar). The principal

ACC NR: AT8012044

conclusions drawn from the study are that the average seasonal magnitude of divergence over the mountainous areas ($10^{-7}sec^{-1}$) is one order of magnitude larger than that over the lowlands, and that it defines the streamlining around the mountain systems, i.e., air-mass flows which change with the seasons. The divergence of the prevailing wind ($10^{-5}sec^{-1}$) is comparable to that of the eddy velocity. The divergence fields of the prevailing winds and of the vertical motions for different types of cold air-mass invasions reflect the influence of the topography. During the first phase of cold air-mass intrusions horizontally disposed eddies develop in the lower 3-m layer of the atmosphere and they exert considerable influence on the formation of pre-frontal cloudiness. In the second phase, two large-scale waves develop close to the Pamir-Alay and Tien-Shan Ranges. Orig. art. has: 4 figures, 2 tables, and 4 formulas. [WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 001

Card 6/6

ACC NR: AT8014741 SOURCE CODE: UR/3328/67/044/000/0073/0084

AUTHOR: Shirokova, N. S.

ORG: none

TITLE: Wind regime of the Kalinskaya Oblast'

SOURCE: Kalinin. Gosudarstvennyy pedagogicheskiy institut. Uchenyye zapiski, v. 44, 1967. Kafedra geografii (Department of geography), 73-84

TOPIC TAGS: wind field, atmospheric turbulence, wind direction

ABSTRACT: The prevailing seasonal winds in the Kalinskaya Oblast' are southwesterly during the winter months and northwesterly during the summer (due mainly to the presence of large highs and lows, respectively). Wind roses, whose scales are constructed so that 1 cm represents a 5% frequency of a given wind direction of the total number of observations made exclusive of calms, are given for various weather stations, seasons, and periods of time. Sketch maps show the location and terrain features at three weather stations -- Torontsa, Staritsa, and Rzhev. The effects of the underlying surface relief on the winds of various stations are described. Wind-frequency graphs for wind directions by months are also given for Kalinin, Staritsa, Bezhetsk, Toropets, and Rzhev. Orig. art. has: 15 figures. [WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: none

Card 1/1

ACC NR: AT8014494 SOURCE CODE: UR/3340/67/000/003/0090/0092

AUTHOR: Shneyer, M. S.

ORG: Desert Institute, Academy of Sciences Turkmen SSR (Institut pustyn' Akademii nauk Turkmenskoy SSR)

TITLE: Development of research in the multi-discipline study and mastery of the desert areas of Central Asia and Kazakhstan

SOURCE: AN TurkmSSR. Nauchnyy sovet po probleme pustyn'. Problemy osvoyeniya pustyn', no. 3, 1967, 90-92

TOPIC TAGS: scientific conference, desert study

ABSTRACT: The task of defining research problems to be solved in developing and coordinating research in desert areas was assigned at the Twenty-Fourth Session of the Council for Coordinating the Scientific Activity of the Academies of Sciences of the Union Republics (4 July 1966) to the Kirgiz, Kazakhstan, Tadzhikistan, Turkmanian, and Uzbekistan academies. Individual proposals made by each institution were discussed and presented at a meeting of the Presidium of the Academy of Sciences USSR on 13 January 1967. Proposals for future work covered such fields of interest as desert

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ACC NR: AT8014494

irrigation, utilization of ground and surface water, estimates of ground water reserves, classification of Central Asian deserts and the methods of combating mobile sand belts, utilization of arid areas for pasturage and fodder raising, special studies of the potential utilization of takyr areas, climatological studies, and various aspects of other desert area exploitation. A list of 35 members of the Scientific Council on the Problem of the "Multi-Discipline Study and Combating of the Desert Areas of Central Asia and Kazakhstan" is appended. The institutes or organizations with which each scientist is affiliated and his academic rank are also given.

[WA-50; CBE No. 32] [ER]

SUB CODE: 08/ SUBM DATE: 20Feb67

Card 2/2

ACC NR: AT8013571 SOURCE CODE: UR/3269/67/000/001/0118/0124

AUTHOR: Subbotina, O. I.

ORG: none

TITLE: Influence of relief on the formation of the temperature regime in the mountainous areas of Central Asia

SOURCE: Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR. Trudy, no. 1, 1967. Avtomatizatsiya obrabotki meteorologicheskoy informatsii i ob"yektivnyy analiz (Automation of the processing of meteorological data and an objective analysis), 118-124

TOPIC TAGS: atmospheric temperature field, upper atmosphere temperature, boundary layer temperature, atmospheric circulation, local wind, mountain wind, valley wind, foehn

ABSTRACT: A comparative study is made of the air temperatures measured at 52 weather stations located in mountainous area and measurements made simultaneously in the free atmosphere at four radiosonde stations located in different types of terrain (Chardzhou - plains; Tashkent - foothills; and Dushanbe and Dzhalal-Abad - mountains). The coefficient of correlation between the temperature measured at 0400 hr at a radiosonde station and

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ACC NR: AT8013571

measured at 0100 and 1300 hr at the mountain stations was computed on a M-20 electronic computer using daily measurements for the months of January, April, July, and October from 1957 through 1963. The present paper gives only those data for the air temperatures at 0100 hr at the mountain stations and those measured in the free atmosphere over Tashkent and Chardzhou at 0400 during January and July. Analysis of the dependence of the correlation coefficient on the distance between the weather stations and the radiosonde stations indicated that the underlying relief had a definite effect on the coefficient and was not always correlative with distance or time of year. Orig. art. has: 2 figures and 5 tables. [WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 008

Card 2/2

ACC NR: AP8013301 SOURCE CODE: UR/0465/67/000/004/0059/0070

AUTHOR: Timofeyev, K. T.

ORG: Tadzhik Scientific Research Power Department (Tadzhikskiy nauchno-issledovatel'skiy otdel energetiki)

TITLE: Analysis of the meteorological conditions which cause electric transmission lines and connections to break in areas where the high-voltage electric power transmission between the Nurek power station and Tashkent is being laid out

SOURCE: AN TadzhSSR. Izvestiya. Otdeleniye fiziko-matematicheskikh i geologokhimicheskikh nauk, no. 4, 1967, 59-70

TOPIC TAGS: local climate , wind field, local wind, ice storm, power line icing

ABSTRACT: The results of a pilot study carried out in the 1947—1965 period to determine the effects of weather conditions on efficient installation of high-voltage electric power lines are reported. The area studied as an example was between the Nurek Hydroelectric Power Station and the city of Tashkent, an area known for the development of the local "Ursat' yev" high-speed winds. Weather factors studied in detail included the strength, duration, and frequency of heavy rain and snow storms, the intensity and

Card 1/2 UDC: 551.589:575.3

ACC NR: AP8013301

frequency of heavy rain and snow storms, the intensity and frequency of icing conditions, the presence of high winds and gustiness, and the synoptic conditions producing these phenomena. Wind speeds reported were as high as 40 m/sec. Orig. art. has: 6 figures and 1 table.

[WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: 10Feb67/ ORIG REF: 004

Card 2/2

ACC NR: AT8014590 SOURCE CODE: UR/2789/67/000/079/0039/0047

AUTHOR: Trubnikov, B. N.

ORG: none

TITLE: Some hydrodynamic models of local circulations in cloud zones

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy, no. 79, 1967. Fizika oblakov (Physics of clouds), 39-47

TOPIC TAGS: atmospheric circulation, local circulation model, atmospheric model, convection wave, cloud structure, hydrodynamic model, cellular convection

ABSTRACT: Systems of hydrodynamic equations, linearized relative to the displacement of the principal flow and in which the heat influx due to condensation is taken into account, are derived as the basis for the construction of four models of local circulations which are associated with clouds. The first describes the streamlines of clouds formed by air currents whereby waves of the "frozen" type (standing clouds) of lee waves develop on the leeward side of a cloud. These waves are determined by the size of the cloud and by the phase of the heat influx, and the wave lengths are determined by the vertical temperature stratification and the saturation

Card 1/2 UDC: 551.558.1

ACC NR: AT8014590

deficit. In the second model the rate of cloud movement in a steady flow is investigated. Here, the rate of cloud movement differs from the wind speed in the flow and depends on the steadiness of the flow, the curvature of the wind profile, and the cloud size, as well as on the wind speed. The third model deals with the orientation of billow clouds (undulatus) relative to wind direction. It is shown that the billows are elongated in the direction of the wind. When gravitational waves are superimposed the billows are broken up into groups. In the fourth model the waves are located on an interface. It is shown that as the atmosphere becomes more stable with height, transverse waves are formed when the wind diminishes with height and longitudinal waves form when it increases with height. Orig. art. has: 1 figure and 36 formulas. [WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: 15Feb67

Card 2/2

ACC NR: AT8010758 SOURCE CODE: UR/3263/67/000/033/0077/0078

AUTHOR: Tyurina, K. I.

ORG: NIIGMP

TEXT NOT REPRODUCIBLE

TITLE: Laser radar photographs through a cloud

SOURCE: Leningrad. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Informatsionnyye materialy po gidrometeorologicheskim priboram i metodam nablyudeniy, no. 33, 1967, 77-78

TOPIC TAGS: meteorologic instrument, laser radar, ruby laser, fog photography, cloud photography

ABSTRACT: Laser beams now can be used, within limits, to take photographs through clouds and fogs. A ruby laser beam with a 20 nanosecond pulse length covers 6 m and gives an image of maximum intensity. The first experiment was made on a 697.3 mm wave at a pulse of 1 Mvt lasting 30 n sec. Two objects were located on the path, one on a straight beam and the second on a beam reflected from a mirror, causing a delay time of 125 n sec. A camera with an electronically synchronized shutter was built so that both features could be photographed simultaneously. In the second experiment, the laser and camera were arranged in a straight line. A semitransparent

Card 1/2 UDC: 621.396.96:621.373.8:535:530.145.6

ACC NR: AT8010758

screen, which diffused about 64 percent of the light incident on it, was installed in front of the features to simulate fog.

[WA-50; CBE No. 32] [ER]

SUB CODE: 04, 20/ SUBM DATE: none

Card 2/2

ACC NR: AT8013983 SOURCE CODE: UR/3340/67/000/002/0037/0046

AUTHOR: Vinogradov, B. V.

ORG: Aerial Methods Laboratory, Ministry of Geology SSSR (Laboratoriya aerometodov, Ministerstva geologii SSSR)

TITLE: Principal trends in the development and use of aerial methods for the multi-discipline study of the arid zones of the USSR [paper presented at the International UNESCO Conference on Principles and Methods of Aerial Surveying and Comprehensive Investigations of Natural Resources held in Toulouse, France, 22 September 1964]

SOURCE: AN TurkmSSR. Nauchnyy sovet po probleme pustyn'. Problemy osvoyeniya pustyn', no. 2, 1967, 37-46

TOPIC TAGS: aerial photography, photogrammetry, aerial photo interpretation, photo interpretation key, desert geography, desert landform, desert vegetation, desert soil, desert mapping

ABSTRACT: Aerial survey methods and photointerpretation techniques being used in the USSR (chiefly by the Aerial Methods Laboratory) in studying and developing desert areas of the Soviet Union are described. Topics

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ACC NR: AT8013983

discussed include the scales at which the photography is taken for various areas, purposes, seasons of the year and times of day. Extensive aerial survey coverage and a multiplicity of photointerpretation keys have been developed as the result of the so-called "complex," i.e., multi-discipline approach used in obtaining this coverage. A five-step program, recommended for future operations, covers all aspects of photogrammetric and aerial surveying procedures to be used in mapping desert terrain, including botanical, soil, geological, geomorphological, and hydrological investigations.
[WA-50; CBE No. 32] [ER]

SUB CODE: 08/ SUBM DATE: 24Jun66/ ORIG REF: 043

Card 2/2

ACC NR: AP8012185 SOURCE CODE: UR/0471/67/020/05-/0127/0135

AUTHOR: Zubyan, G. D.

ORG: none

TITLE: Aerological characteristics of the atmosphere over Armenia

SOURCE: AN ArmSSR. Izvestiya. Nauki o zemle, v. 20, no. 5-6, 1967, 127-135

TOPIC TAGS: climatology, stratosphere, troposphere, stratospheric temperature, tropospheric temperature, temperature anomaly, lapse rate, turbulent exchange

ABSTRACT: Radiosonde observations, made 4 times a day at the Yrevan aerological station in 1961 and 1962, are the basic data used in a study of the anomalous temperatures over the Armenian SSR. The data were tabulated to show the mean monthly air temperatures up to a height of 30 km. Data are also presented on the average temperature distributions along the 40° N. lat. parallel. Four atmospheric layers are identified on the basis of the character of the annual periodic temperature changes: 1) a lower layer (ground to h = 14 km) in which the air temperature becomes higher from winter into summer; 2) a middle "anomalous" layer (15—22 km) in which the air temperature drops from winter to summer; 3) an upper layer (above 22 km)

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ACC NR: AP8012185

in which the air temperature again rises from winter to summer; and 4) two transitional layers at h = 14—15 and 21—22 km in which the mean monthly air temperature varies very little over a year, but which are identical in January and July at h = 14.4 and 21.1 km. The "anomalous" layer is identified as indicating the intrusion of subtropical air which produces a sort of upper-atmosphere inversion. Orig. art. has: 1 figure and 2 tables.
[WA-50; CBE No. 32] [ER]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 001

Card 2/2

ACCESSION NUMBERS FOR ENVIRONMENTAL SECTION

AP8010411	AP8013770	AT8014587
AP8010412	AP8013771	AT8014588
AP8010413	AP8013772	AT8014589
AP8012748	AP8016102	AT8015525
AP8012749		AT8015526
AP8013768	AT8012043	AT8015527
	AT8012050	AT8017193

IV. GENERAL

ACC NR: AP8016128 SOURCE CODE: UR/0177/68/000/004/0003/0007

AUTHOR: Agafonov, V. I. (Colonel; Medical service; Docent)

ORG: none

TITLE: Future problems in decreasing infectious morbidity in troops

SOURCE: Voyenno-meditsinskiy zhurnal, no. 4, 1968, 3-7

TOPIC TAGS: biologic warfare agent, biologic warfare protection, influenza vaccine, military medicine, epidemiology

ABSTRACT: Article appears in Biological Factors

Card 1/1

ACC NR: AT8015306 SOURCE CODE: UR/0000/65/000/000/0061/0068

AUTHOR: Bugrova, V. I.

ORG: Moscow Scientific Research Institute of Hygiene im. F. F. Erisman (Moskovskiy nauchno-issledovatel'skiy institut gigiyeny)

TITLE: The use of infrared spectrophotometry to accelerate the identification of microbes

SOURCE: AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (Problems of sanitary bacteriology and virology). Moscow, Izd-vo "Meditsina," 1965, 61-68

TOPIC TAGS: biologic agent detection, rapid diagnostic method, IR spectrophotometry, Escherichia coli, staphylococcus, enterococcus, (U)IKS14 spectrophotometer

ABSTRACT: Article appears in Biological Factors

Card 1/1 UDC: 614.4-078+576.8:614.4

APPENDIX I. SOURCES

AMN SSSR. Institut poliomielita i virusnykh entsefalitov. Trudy. Interferony i interferonogeny (AMN SSSR. Institute of Poliomyelitis and Viral Encephalitis. Transactions. Interferons and interferonogens)

AMN SSSR. Voprosy sanitarnoy bakteriologii i virusologii (AMN SSSR. Problems of sanitary bacteriology and virology)

AN ArmSSR. Izvestiya. Nauki o zemle (AN ArmSSR. News. Earth sciences)

AN AzerbSSR. Institut zoologii. Trudy. Voprosy parazitologii (AN AzerbSSR. Institute of zoology. Transactions. Problems of parasitology)

AN KazSSR. Izvestiya. Seriya biologicheskaya (Academy of Sciences of the Kazakh SSR. News. Biological series)

AN KazSSR. Vestnik (Academy of Sciences of the Kazakh SSR. Herald)

AN LatSSR. Izvestiya. Seriya khimicheskaya (Academy of Sciences of the Latvian SSR. News. Chemistry series)

AN LatSSR. Khimiya geterotsiklicheskikh soyedineniy. sb. 1: Azotsoderzhashchiye geterotsikly (Chemistry of heterocyclic compounds, no. 1: Nitrogen containing heterocycles)

AN SSSR. Doklady (Academy of Sciences of the USSR. Reports)

AN SSSR. Izvestiya. Fizika atmosfery i okeana (Academy of Sciences of the USSR. News. Physics of the atmosphere and ocean)

AN SSSR. Izvestiya. Seriya khimicheskaya (Academy of Sciences of the USSR. News. Chemistry series)

AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya biologo-meditsinskikh nauk (Academy of Sciences of the USSR. Siberian Branch. News. Biological and Medical Sciences series)

AN TadzhSSR. Izvestiya. Otdeleniye fiziko-matematicheskikh i geologo-khimicheskikh nauk (AN TadzhSSR. News. Department of Physicomathematical and Geologicochemical Sciences)

Antibiotiki (Antibiotics)

Armyanskiy khimicheskiy zhurnal (Armenian Journal of Chemistry)

AN TurkmSSR. Nauchnyy sovet po probleme pustyn'. Problemy osvoyeniya pustyn' (AN TurkmSSR. Scientific Council on the problem of deserts. Problems of mastering deserts)

Biokhimiya (Biochemistry)

Entomologicheskoye obozreniye (Entomology Review)

Farmakologiya i toksikologiya (Pharmacology and Toxicology)

Genetika (Genetics)

Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR. Trudy. Avtomatizatsiya obrabotki meteorologicheskoy informatsii i ob"yektivnyy analiz (Hydrometeorological Scientific Research Center of the USSR. Transactions. Automation of the processing of meteorological data and an objective analysis)

Journal fur praktische Chemie (Journal of Applied Chemistry)

Kalinin. Gosudarstvennyy pedagogicheskiy institut. Uchenyye zapiski. Kafedra geografii (Kalinin. State Pedagogical Institute. Studies. Department of geography)

Khimiya geterotsiklicheskikh soyedineniy (Chemistry of Heterocyclic compounds)

Khimiya v sel'skom khozyaystve (Chemistry in Agriculture)

Leningrad. Institut epidemiologii i mikrobiologii. Trudy. Voprosy etiologii i diagnostiki pishchevykh toksikoinfektsiy (Leningrad. Institute of Epidemiology and Microbiology. Transactions. Problems of etiology and diagnostics of food toxico-infections)

Leningrad. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Informatsionnyye materialy po gidrometeorologicheskim priboram i metodam nablyudeniy (Leningrad. Scientific Research Institute of Hydrometeorological Instrument Manufacture. Information on hydrometeorological devices and methods of observation)

Mikologiya i fitopatologiya (Mycology and Phytopathology)

Moscow. Laboratoriya aerometodov. Aerofotograficheskoye etalonirovaniye i ekstrapolyatsiya; metodicheskoye posobiye (Moscow. Laboratory of aeronautical methods. Identification and extrapolation of photo interpretation keys; a methods handbook)

Ref. zh. Geofizika (Journal of Abstracts. Geophysics)

Tashkent. Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy. Temperaturnyy rezhim i analiz frontov v gorakh (Tashkent. Central Asian Hydrometeorological Scientific Research Institute. Transactions. Temperature regime and analysis of fronts in the mountains)

Tashkent. Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy. Voprosy glyatsiologii Sredney Azii (Tashkent. Central Asian Hydrometeorological Scientific Research Institute. Transactions. Problems of glaciology of Central Asia)

Tsentral'naya serologicheskaya observatoriya. Trudy. Fizika oblakov (Central Aerological Observatory. Transactions. Physics of clouds)

Vestnik sel'skokhozyaystvennoy nauki (Herald of agricultural science)

Veterinariya (Veterinary Medicine)

Voprosy virusologii (Problems of Virology)

Voyenno-meditsinskiy zhurnal (Military Medical Journal)

Vynalezy (Inventions)

Zashchita rasteniy (Plant Protection)

Zdravookhraneniye Turkmenistana (Public Health of Turkmenistan)

Zhurnal mikrobiologii, epidemiologii i immunobiologii (Journal of Microbiology, Epidemiology and Immunology)

Zhurnal organicheskoy khimii (Journal of Organic Chemistry)

Zhurnal strukturnoy khimii (Journal of Structural Chemistry)

APPENDIX II. ORGANIZATIONS

Academy of Communal Economy im. Pamfilov (Akademii kommunal'nogo khozyzystva)

Agricultural Institute, Grodno (Sel'skokhozyaystvennyy institut)

Aerial Methods Laboratory, Ministry of Geology SSSR (Laboratoriya aerometodov, Ministerstva geologii SSSR)

All-Union Chemical and Pharmaceutical Scientific Research Institute im. S. Ordzhonikidze, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut)

All-Union Institute of Experimental Veterinary Medicine (Vsesoyuznyy institut eksperimental'noy veterinarii)

All-Union Scientific Research Institute of Chemicals for Plant Protection, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

Biological Institute, Siberian Branch AN SSSR, Novosibirsk (Biologicheskiy institut Sibirskogo otdeleniya AN SSSR)

Central Asiatic Scientific Research Antiplague Institute, Alma-Ata (Sredneaziatskiy nauchno-issledovatel'skiy protivochumnyy institut)

Chemical and Biological Institute of VEB Dye Plant, Wolfen (Chemisch-Biologisches Institut des VEB Farbenfabrik)

Control Institute of Medical Biological Preparations im. L. A. Tarasevich (Kontrol'noyy institut meditsinskikh biologicheskikh preparatov)

Coordinating Council for Scientific Activity of the Academies of Science of the Union Republics, AN SSSR, Moscow (Sovet po koordinatsii naychnoy deytel'nosti akademiy nayk soyuznykh respublik AN SSSR)

Desert Institute, Academy of Sciences Turkmen SSR; Geological-Geophysical Expedition of the Geological Administration, Turkmen SSR (Institut pustyn' Akademii nauk Turkmenskoy SSR; Geologo-geofizicheskaya ekspeditsiya Upravleniya geologii Turkmenskoy SSR)

Division of Radiation Pharmacology, Institute of Medical Radiology, AMN SSSR, Obninsk (Otdel radiatsionnoy farmakologii Instituta meditsinskoy radiologii AMN SSSR)

Dnepropetrovsk Chemical and Technological Institute (Dnepropetrovskiy khimiko-tekhnologicheskiy institut)

Dnepropetrovsk Plant of Bacteriological Preparations (Dnepropetrovskiy zavod bakteriologicheskikh preparatov)

Donets Branch, All-Union Scientific Research Institute of Chemical Reagents and High Purity Chemicals (Donetskiy filial vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i chistykh khimicheskikh veshchestv)

Donets Branch of the All-Union Scientific Research Institute of Chemical Reagents and High Purity Substances (Donetskiy filial vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i osobo chistikh veshchestv)

Eastern Scientific Research Institute of Coal Chemistry, Sverdlovsk (Vostochnyy nauchno-issledovatel'skiy uglekhimicheskiy institut)

First Leningrad Medical Institute im. L. P. Pavlov (1-y Leningradskiy meditsinskiy institut)

Institute of Agriculture and Livestock Breeding of the Western UkrSSR (Institut zemledeliya i zhivotnovodstva zapadnykh rayonov UkrSSR)

Institute of Epidemiology and Microbiology im. N. F. Gamaleya, AMN SSSR (Institut epidemiologii i mikrobiologii AMN SSSR)

Institute of Epidemiology and Microbiology im. Paster, Leningrad (Institut epidemiologii i mikrobiologii)

Institute of Experimental Medicine, AMN SSSR (Institut eksperimental'noy meditsiny AMN SSSR)

Institute of Fine Organic Chemistry, AN ArmSSR (Institut tonkoy organicheskoy khimii AN ArmSSR)

Institute of General and Community Hygiene im. A. N. Sysin, AMN SSSR (Institut obshchey i kommunal'noy gigiyeny AMN SSSR)

Institute of Heteroorganic Compounds, Academy of Sciences SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

Institute of Heteroorganic Compounds, AN SSSR (Institut elemento-organicheskikh soyedineniy AN SSSR)

Institute of Organic and Physical Chemistry im. A. Ye. Arbyzov, Academy of Sciences, SSSR, Kazan' (Institut organicheskoy i fizicheskoy khimii Akademii nauk SSSR)

Institute of Organic Chemistry, AN SSSR, Moscow (Institut organicheskoy khimii AN SSSR)

Institute of Technical Chemistry, Martin Luther University, Halle-Wittenberg (Institut fur Technische Chemie der Martin-Luther-Universitat)

Institute of Virology im. D. I. Ivanovskiy, AMN SSSR (Institut virusologii AMN SSSR)

Institute of Virology im. D. I. Ivanovskiy, AMN SSSR, Moscow (Institut virusologii AMN SSSR)

Kiev Scientific Research Institute of Epidemiology and Microbiology (Kiyevskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii)

Laboratory of Microbiology, Kazan State University im. V. I. Ul'yanov-Lenin (Laboratoriya mikrobiologii Kazanskogo gosudarstvennogo universiteta)

Laboratory of Pharmacology, All-Union Scientific Research Institute of Antibiotics, Moscow (Laboratoriya farmakologii Vsesoyuznogo nauchno-issledovatel'skogo instituta antibiotikov)

Leningrad Institute of Vaccines and Sera (Leningradskiy institut vaktsyn i syvorotok)

Leningrad Hydrometeorological Institute (Leningradskiy gidrometeorologicheskiy institut)

Military Medical Academy im. S. M. Kirov (Voyenno-meditsinskaya akademiya)

Moscow Agricultural Academy im. K. A. Timiryazev (Moskovskaya sel'skokhozyaystvennaya akademiya)

Moscow Institute of Chemical Technology im. D. I. Mendeleev (Moskovskiy khimiko-tekhnologicheskiy institut)

Moscow Scientific Research Institute of Hygiene im. F. F. Erisman (Moskovskiy nauchno-issledovatel'skiy institut gigiyeny)

Moscow Scientific Research Institute of Viral Preparations, Ministry of Public Health, SSSR (Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov Ministerstva zdravookhraneniya)

NIIGMP

Novokuznetsk Scientific Research Chemical and Pharmaceutical Institute (Novokuznetskiy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut)

Pavlodar Oblast Sanitation and Epidemiological Station, Pavlodar (Pavlodarskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya)

Republic Sanitation and Epidemiological Station (Respublikanskaya sanitarno-epidemiologicheskaya stantsiya)

Riga Polytechnic Institute (Rizhskiy politekhnicheskiy institut)

Siberian Scientific Research Agricultural Institute (Sibirskiy nauchno-issledovatel'skiy institut sel'skogo khozyzystva)

Tadzhik Scientific Research Power Department (Tadzhikskiy nauchno-issledovatel'skiy otdel energetiki)

Ukrainian Institute of Community Hygiene (Ukrainskiy institut kommunal'noy gigiyeny)

Ukrainian Scientific Research Institute of Plant Protection, Kiev (Ukrainskiy nauchno-issledovatel'skiy institut zashchity rasteniy)

Ul'yanovsk Agricultural Institute (Ul'yanovskiy sel'skokhozyzystvennyy institut)

Uzbek Institute of Hygiene, Sanitation and Occupational Diseases (Uzbekskiy institut gigiyeny, sanitarii i profzabolevaniy)

VNIIF

VNII of Corn (VNII kukuruzy)

APPENDIX III. AUTHORS